



2021 Haverhill Industrial Pretreatment Program Annual Report

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Program Description

The City of Haverhill's Wastewater Department implements an Industrial Pretreatment Program (IPP) that was approved by the United States Environmental Protection Agency (USEPA) in 1984.

The Haverhill IPP is designed to prevent the introduction of contaminants into the Haverhill publicly owned treatment works (POTW) that will result in pass-through and/or interference. The Haverhill POTW has a design flow of 18.1 million gallons per day (MGD) and services the City of Haverhill and the Town of Groveland. The City requires each Significant Industrial User (SIU) to do self-monitoring for at least one sample per quarter. The Haverhill IPP Coordinator also conducts unannounced sampling and inspection of all SIUs at least once a year.

The Haverhill IPP Coordinator has the help of the Wastewater Collection System Staff to conduct inspections and sampling. The City of Haverhill has an IPP budget for permitting, compliance issues, monitoring, inspections, sampling, sample preparation, and sample analysis by an outside laboratory as well as any portable pH meters, samplers, and inspection equipment required. The expenses are paid through lab sampling and analysis collection fees, inspection fees, and permit application fees.

The City has hired the engineering firm, Hoyle and Tanner, to review and revise the Haverhill IPP program, including the local limits re-evaluation. The Local Limits re evaluation was completed and sent to the EPA for review in June of 2021. As of January 2022, the City is awaiting comments from the EPA review.

The Haverhill IPP Coordinator has made updates to the City's Pretreatment Department website. These updates include information on all wastewater discharge permits as well as links for online submissions of all wastewater discharge permits. Below is a link to the current Pretreatment website.

http://www.haverhillma.gov/departments/public_works_department/water_wastewater/wastewater/industrial_pretreatment_program/index.php

The IPP Coordinator, with the assistance of a contractor, Wright Pierce, has been inspecting food service establishments that discharge into the Haverhill POTW. During the inspections, the IPP Coordinator or contractor inspects all grease traps and grease interceptors on site using a sludge judge and requests to see the pump out receipts from the past year. A core sample is obtained from the grease interceptor/trap and the IPP Coordinator makes sure that it is less than 25% of the grease interceptor/trap's capacity. If the capacity is greater than 25%, then the food service establishment has ten (10) days to pump out the grease interceptor/trap. The Haverhill POTW Staff will re-inspect after ten (10) days. On June 29, 2021 Wright Pierce was hired by the City of Haverhill Wastewater Department to conduct all food service establishments' (FSE) grease interceptor/trap inspections. In 2021, the Haverhill Wastewater Department conducted 343 inspections.

The City sponsors two Household Hazardous Waste collection days per year. This enables residents to dispose of/or recycle toxic materials which otherwise would go down the drains and possibly cause interference or pass-through at the POTW.

The City has set up a surcharge fee for TSS, BOD, and FOG for several significant industrial users. This is based on total pounds per quarter for each parameter (based on a formula and self-monitoring reports) and the industry is billed per quarter.

Upon inspection and sampling of an SIU, Cedar's Mediterranean Foods, Inc. (Cedar's): the SIU designed and constructed a pretreatment system that significantly lowered their BOD, TSS, and FOG loadings in their process waste. This system continues to function well and has greatly reduced the amount of FOG at the WWTP.

Industrial Users

During this reporting period (January 1, 2021 to December 31, 2021), seventeen (17) active IUs were permitted to discharge industrial wastewater to the Haverhill POTW. Refer to **Table 1** for a list of permitted IUs. The City continues to expand and expects additional industries to require pretreatment supervision in coming years.

Permitting

The Haverhill IPP issued one (1) renewal permit in 2021, for United Site Services (ONSIU).

The Haverhill Pretreatment Department also issues general permits to applicable businesses. These general permits consist of a sanitary sewer permit, commercial permit, food service facility permit, and a vehicle maintenance permit. In order to obtain an occupancy permit, all businesses must get a sign-off from the Haverhill IPP Coordinator. This ensures that all businesses are complying with the pretreatment regulations and fill out the proper general permit.

Sampling and Inspections

The Haverhill IPP monitoring is intended to enhance industry self-monitoring and verify compliance with federal and local limits. The IPP Coordinator arrived unannounced at permitted industries to perform IPP sampling. All SIU's were inspected within the calendar year 2021. Also, the IUs were sampled for all their regulated parameters. Sampling events are indicated by sample dates in **Appendix A**.

Compliance

Each permitted industry is required to submit periodic Self-Monitoring Reports (SMRs) that include sampling results. The 2021 sampling data (both Authority and Industrial User sampling) indicates that five (5) IU's were cited for non-compliance. Bolded entries in **Table 1** indicate non-compliance status for the permitted industries. One industry was cited for Significant Non –Compliance in 2021 – Stewarts Septic Inc.

Enforcement

The Haverhill IPP Coordinator is working with these non-compliant industries to achieve full compliance with each SIUs discharge limits. All SIUs are required to notify the Haverhill IPP Coordinator immediately when made aware of any violations to their discharge permits. Once the IPP Coordinator is made aware, the SIU must resample to ensure that they are in compliance again and submit in writing the actions taken to prevent future violations. The City will ensure that SIU follow-up sampling is conducted upon notification by the City of a violation or the SIU noticing a violation of an Industrial Discharge Permit parameter. In this manner, the City will work closely with the SIUs to help keep the SIU out of Significant Non Compliance.

Below is a list of the four (4) SIUs in non-compliance:

1. **I.M.I. (Permit No. PTX-010 (3679-10))** was non-compliant for exceeding Copper limit of 3 mg/L. The Haverhill IPP issued the SIU a NOV (Notice of Violation). The SIU has been in compliance since August 2021.
2. **Runtal NA (Permit No. 2842-01)** was non-compliant for having exceeded the Zinc limit of 1.5. The Haverhill IPP issued the SIU a NOV (Notice of Violation). The SIU has been in compliance since September 2021.
3. **Metropolitan Linen Services (Permit No. 7211-01)** was non-compliant for having a pH higher than 11.5 and lower than 6. The Haverhill IPP issued the SIU a NOV (Notice of Violation). The SIU has been compliant since April 2021
4. **Stewarts Global Environmental, LLC (Permit No. 2875-01)** was non-compliant for exceeding Zinc. The Haverhill IPP issued the SIU a NOV (Notice of Violation). The City of Haverhill Wastewater Department will continue sampling Stewarts Global Environmental, LLC's industrial wastewater discharge at least quarterly to ensure compliance with Stewarts Global Environmental, LLC's permit limits. The SIU is currently designing plant upgrades to improve removal of all discharge permit limit parameters.

NPDES Permit Sampling Results

Included in this report are sampling results that characterize the Haverhill Treatment Plant's influent, effluent, sludge, and receiving stream. Five (5) tables are presented in this report to summarize National Pollutant Discharge Elimination System (NPDES) sampling results.

Table 3 provides an overview of the NPDES sampling performed at the Haverhill Wastewater Treatment Plant in 2021.

Table 4 is a summary of data from the Haverhill Wastewater Treatment Plant's influent collected in 2021 and **Table 5** is a summary of data from the Haverhill Wastewater Treatment Plant's effluent collected in 2021. Samples were analyzed for ten metals, as required in Attachment C of the Haverhill Wastewater's NPDES permit. The results are compared with the Mass Allowable Headworks Loadings (MAHLs) and EPA's National Recommended Water Quality Criteria 2002. Results indicate that no harmful levels of these pollutants were found in the POTW influent and effluent.

Table 6 is a summary of data from the sludge generated at the Haverhill Wastewater Treatment Plant. The results were compared with Toxicity Characteristic Leaching Procedure (TCLP) limits, and all results were below those limits. Also, **Table 7** is a summary of data from the receiving stream (Merrimack River). Organic test laboratory results for influent, effluent, sludge, and receiving stream can be found in **Appendix C**.

Interference/Pass Through

The Haverhill Wastewater Treatment Plant has not faced any interference or pass through that has caused violations with the NPDES permit.

The City of Haverhill is currently revising its SUO to include stricter FOG regulations. Part of the new FOG Program is described in the Program Description of this report. On top of inspecting all food service establishments and industries, the Haverhill IPP Coordinator is developing public education materials to make people aware of how FOG harms the POTW.

Local Limits

The Haverhill Wastewater Department adopted and had approved its local limits in March 1998. The Haverhill IPP Coordinator reassessed the technically based local limits in 2009 and at that point determined that no new local limit development is needed.

The Haverhill Wastewater Department has hired Hoyle and Tanner to re-evaluate the local limits. Hoyle and Tanner originally evaluated the local limits back in 1998. The IPP coordinator hopes to have a draft ready to submit to the EPA by the end of 2021. The local limits reevaluation was submitted to the EPA in June of 2021 and the City is currently awaiting feedback.

Hauled Waste

The Haverhill Wastewater Department currently has a Hauled Waste Program managed by the Haverhill IPP Coordinator. These dischargers consist mainly of septage haulers. Under no circumstance does the Haverhill Wastewater Treatment Plant allow haulers to discharge FOG waste. All haulers must submit permit applications and are issued a Hauled Waste Discharge Permit that is good for one (1) year.

The City's Hauled Waste website has been updated to include regulations, sampling instructions, and discharge restrictions. The link to Haverhill Wastewater's Hauled Waste website is below:

http://www.haverhillma.gov/departments/public_works_department/water_wastewater/index/index.php

Table 1
Significant Industrial User Compliance Summary

Permit No.	Permit Expiry Month/Year	IU Type	CAT	SIC	Industry	Address	Daily Flow Limit (GPD)	Periodic Self-Monitoring Reports	Local Limits	Annual Inspection Date	Contact Information
2893-01	8/1/2024	SIU	-	2893	Cabot Corporation	50 Rogers Rd	50,000	C	C	12/7/2021	Chuck Hardenstine; chuck.hardenstine@cabotcorp.com; 978-556-8400
311-2018-02	11/1/2024	SIU	-	2099	Cedar's Mediterranean Foods, Inc.	50 Foundation Ave	330,000	C	C	10/19/2021	Alan Wlodyka or Michael Kennedy; 978-372-8010; mkennedy@cedarsfoods.com; awlodyka@cedarsfoods.com
311-2018-02	11/1/2024	SIU	-	2099	Cedar's Mediterranean Foods, Inc. (Ward Hill)	148 Ward Hill Ave	33,000	C	C	10/29/2021	
4953-01	1/1/2023	SIU	-	4953	Covanta Haverhill, Inc.	100 Recovery Way	150,000	C	C	11/10/2021	Costas Lambropoulos; 978-241-3064; clambropoulos@covanta.com
3269-01	5/1/2024	SIU	-	3269	Gare, Inc.	165 Rosemont St	5,000	C	C	10/21/2021	Jeff Brill; 978-912-5671; jbrill@gare.com
509-01	5/1/2023	SIU	-	2099, 2088	Hans Kissel	9 Creek Brook Dr	200,000	C	C	11/23/2021	Jerry O'Leary; 978-556-4500 x257; joleary@hanskissle.com
3679-10	11/1/2024	CSIU	413	3672	I.M.I.	140 Hilldale Ave	30,000	C	NC	12/15/2021	Jamie Tocci; 978-373-9190; jtocci@imipcb.com
2099-03B	8/1/2025	SIU	-	2099	Joseph's Gourmet Pasta	262 Primrose St	300,000	C	C	12/9/2021	Jake Velonis; jake.velonis@josephspasta.com
8071-01	9/1/2022	NSIU	-	8071, 806	Holy Family Hospital (Merrimack Valley Hospital)	140 Lincoln Ave	5,000	C	C	N/A	Warren Rogers; 978-521-8179; warren.rogers@steward.org
7211-01	5/1/2023	SIU	-	7211	Metropolitan Linen Services	105 Ward Hill Ave	50,000	C	NC	5/6/2021	Frank Gianci; 617-381-1156; frankg@metropolitanlinen.com
3569-02	10/1/2025	ONSIU	-	3594	Parker Hannifin	242 Neck Rd	35,000	C	C	N/A	Denise Gordon or Alexander Bradanick; denise.gordon@parker.com; alexander.bradanick@parker.com
2842-01	1/1/2024	CSIU	433	2842	Runtal North America	187 Neck Rd	5,000	C	NC	9/21/2021	Jacob Lightizer; 978-373-1942; jacob.lightizer@runtalnorthamerica.com
926-011	2/1/2024	ONSIU	-	2899	EMD Performance Materials	1429 Hilldale Ave	500	C	C	11/8/2021	Geoff Gilbert; 978-377-1536; geoffrey.gilbert@emdgroup.com
3444-03	5/1/2024	CSIU	433	3472	Specialized Plating, Inc.	15 Ward Hill Ave	10,000	C	C	12/6/2021	Brad Kelly; 978-373-8030; brad.k@specializedplating.com
2875-01	4/1/2025	SIU	-	2875	Stewarts Septic Services	20 South Mill St	100,000	C	NC	8/12/2021	Momin Uddin or John Divincenzo; 978-372-7471; muddin@stewartsw.com; jandsdevelopment@hotmail.com 978-
5629-01	8/1/2026	ONSIU	-	5629	United Site Services	239 Neck Road	15,000	C	C	N/A	Steven Quintal; 508-245-4425
3231-02	1/1/2025	NSIU	-	2297	3M	55 Ward Hill Avenue	150	C	C	N/A	Ken Pyzocha, P.E.; 603-545-3024 kpyzocha@mmm.com Travis Brenner Cell: +1 978-201-4451 tbrenner@mmm.com
3364-01	11/1/2025	NSIU	-	33641	Magellan Aerospace	20 Computer Dr	2,500	C	C	N/A	Timothy Richards 978.739.6138 Timothy.Richards@magellan.aero
SIU	Significant Industrial User								N/A = Not Applicable		
CSIU	Categorical Significant Industrial User								C = Compliant		
NSIU	Non-Significant Industrial User								NC = Non-Compliant		
ONSIU	Other Non-Significant Industrial User								CL = Closed		

Table 2

2021 SNC List

The following is the list of permitted industries that were determined to be in **Significant Non-Compliance (SNC)**, as defined in 40 CFR 403.8(f) (2) (vii), during the reporting period of January 1, 2021 through December 31, 2021.

- 1. No Significant Noncompliance industries for this reporting period.**

Table 3
2021 NPDES Permit Sampling

Influent Data		Permit Limit	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
BOD 5-DAY (mg/L)	Mo. Avg.	N/A	240	304	241	253	279	297	179	239	242	259	208	243
BOD 5-DAY (ppd)	Mo. Avg.	N/A	21,536	25,338	23,663	25,134	25,967	21,999	21,007	22,467	22,830	22,823	21,999	22,581
	Weekly Avg.		1,837	1,784	1,560	1,144	1,045	1,127	1,018	1,064	1,483	1,887	2,178	1,072
TSS (mg/L)	Mo. Avg.	N/A	175	217	181	202	290	293	211	233	216	221	151	177
TSS (ppd)	Mo. Avg.	N/A	15,718	18,328	17,859	20,134	27,001	21,679	25,503	22,674	21,092	20,116	16,284	16,766
	Weekly Avg.		1,096	1,022	1,087	680	1,112	668	872	529	1,198	1,248	2,060	870
Effluent Data		Permit Limit	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flow (MGD)	Mo. Avg.	N/A	11.36	9.89	11.62	12.84	11.64	8.81	15.10	10.91	12.01	11.87	13.61	11.34
	Daily Max		23.43	18.84	16.23	27.47	24.41	18.18	31.94	22.17	36.47	42.14	24.75	15.54
	12 Mo. Avg		18.10	9.87	9.69	9.64	9.32	9.37	9.48	18.10	10.61	11.09	11.48	11.76
BOD 5-DAY (ppd)	Mo. Avg.	4,500	1,643	1,289	1,223	964	643	897	805	869	880	1,396	659	827.00
	Daily Max	N/A	2,108	3,515	2,008	2,984	3,852	2,429	2,704	2,566	3,960	7,387	1,087	1,397.00
BOD 5-DAY (mg/L)	Mo. Avg.	30	18.19	15.57	12.62	9.23	6.34	12.15	6.12	8.95	8.42	11.71	6.04	8.83
	Weekly Avg.	45	22.16	20.05	16.76	12.42	8.42	14.86	8.39	11.45	11.00	12.06	9.09	10.89
	Daily Max	N/A	25.50	22.37	22.93	15.33	18.92	2,195.00	17.89	17.16	13.02	21.02	9.55	14.47
BOD 5-DAY (% Removal)	Mo. Avg. Min.	85	92.10	94.80	94.60	96.00	97.60	95.60	96.10	96.00	96.30	94.40	96.80	96.20
TSS (mg/L)	Mo. Avg.	30	9.36	8.67	7.00	5.48	4.13	6.53	4.45	4.88	4.64	6.94	4.30	6.67
	Weekly Avg.	45	12.88	10.26	9.79	6.52	6.76	7.12	6.36	5.72	7.24	8.06	8.30	8.85
	Daily Max	N/A	14.89	14.75	10.80	8.20	20.00	10.00	12.60	8.40	13.60	20.88	6.20	11.43
TSS (ppd)	Mo. Avg.	4,529	851	744	694	570	481	493	594	464	554	951	475	633
	Daily Max	N/A	1,274	2,318	1,462	1,247	4,072	1,516	2,078	1,256	4,137	7,338	920	1,104
TSS (% Removal)	Mo. Avg. Min.	85	94.50	95.90	95.90	97.00	98.40	97.70	97.70	97.70	97.50	96.10	97.00	96.00
Enterococci (Colonies/100 mL)	Mo. Geo.	35	26.00	20.00	7.00	3.00	6.00	13.00	10.00	30.00	6.00	28.00	11.00	33.00
	Daily Max	276	26.00	1,200.00	7.00	41.00	50.00	13.00	10.00	30.00	6.00	48.00	11.00	47.00
Fecal Coliform (Colonies/100 mL)	Mo. Geo.	88	9.40	4.00	3.50	4.00	1.50	6.60	9.60	18.20	6.50	11.90	22.10	9.20
	Daily Max	260	141	43	79	109	8	60	98	195	119	198	56	87.00
pH (Standard Units)	Min.	6.5	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
	Max	8.5	7.40	6.90	6.90	7.00	7.30	7.00	6.90	7.10	6.90	7.70	6.80	7.10
Chlorine Residual (mg/L)	Mo. Avg.	0.40	0.16	0.27	0.29	0.24	0.27	0.24	0.28	0.25	0.23	0.21	0.20	0.18
	Daily Max	0.70	0.38	0.59	0.57	0.52	0.50	0.43	0.44	0.34	0.32	0.32	0.29	0.27
LC50 48 HR ACUTE Pimephales promelas	Daily Min.	100%	100			100			100			100		

Table 4

City of Haverhill Wastewater Treatment Plant

2021 Influent Pollutant Sampling

Parameter	January 4, 2021 - January 5, 2021		April 26, 2021 - April 27, 2021		July 27, 2021 - July 28, 2021		October 18, 2021 - October 19, 2021		Yearly Average Headwork Loading (lbs./day)	Headwork Loading Limit (lbs./day)	Within MAHL limits?
	Results (mg/L)*	Headwork Loading (lbs.)**	Results (mg/L)*	Headwork Loading (lbs.)**	Results (mg/L)*	Headwork Loading (lbs.)**	Results (mg/L)*	Headwork Loading (lbs.)**			
Antimony	0.005	2.9400	0.007	0.0881	0.005	0.6911	0.005	0.3298	1.0122	N/A	N/A
Arsenic	0.01	0.9450	0.01	0.1761	0.01	0.2304	0.01	1.9791	0.8326	14.1	YES
Beryllium	0.005	0.1050	0.005	0.0881	0.005	0.1152	0.005	0.3298	0.1595	N/A	N/A
Cadmium	0.004	0.1050	0.004	0.0881	0.004	0.1152	0.004	0.2639	0.1430	2.73	YES
Chromium	0.005	0.3150	0.005	0.1761	0.005	1.4973	0.005	0.3298	0.5796	206	YES
Copper	0.047	3.9900	0.057	3.0825	0.02	23.2654	0.05	1.3194	7.9143	98.5	YES
Lead	0.005	0.1050	0.006	0.1761	0.005	2.5339	0.005	2.1110	1.2315	22.5	YES
Mercury	0.0002	0.0210	0.0002	0.0176	0.0002	0.0346	0.0002	0.0132	0.0216	2.9	YES
Nickel	0.006	0.3150	0.006	0.5284	0.006	0.9214	0.005	0.3298	0.5237	2.5	YES
Selenium	0.01	0.2100	0.01	0.1761	0.01	0.2304	0.01	0.6597	0.3190	21.98	YES
Silver	0.005	0.1050	0.005	0.0881	0.005	0.3455	0.005	0.3298	0.2171	24.7	YES
Thallium	0.0001	0.0210	0.0001	0.0264	0.0001	0.0230	0.0001	0.0660	0.0341	N/A	N/A
Zinc	0.378	31.7102	0.468	26.5973	0.404	92.9465	0.466	11.9405	40.7986	49.1	YES
Cyanide	0.01	1.0500	0.01	0.8807	0.01	1.1518	0.01	0.6597	0.9355	12.4	YES
Flow	12.59	MGD	10.56	MGD	13.81	MGD	7.91	MGD			

*All ND (nondetect) results are shown as less than their reporting limits

***Activated Sludge Inhibition Limits are from Table 2-1 of EPA's Guidance Manual for Preventing Interference at POTWs

Table 5

City of Haverhill Wastewater Treatment Plant

2021 Effluent Pollutant Sampling

Parameter	January 5, 2021 - January 6, 2021	April 27, 2021 - April 28, 2021	July 28, 2021 - July 29, 2021	October 19, 2021 - October 20, 2021	Yearly Average Headwork Concentration (mg/L)	EPA's National Recommended Water Quality Criteria: 2002- Human Health	EPA's National Recommended Water Quality Criteria: 2002	EPA's National Recommended Water Quality Criteria: 2002- Organoleptic	WWTP Effluent Water Quality Standards Limits (mg/L)***	Within Water Quality Standards?
Antimony	0.005	0.005	0.005	0.005	0.0050	0.0560	N/A	N/A	N/A	N/A
Arsenic	0.01	0.01	0.01	0.01	0.0100	0.0002	0.6900	N/A	24.7409	YES
Beryllium	0.005	0.005	0.005	0.005	0.0050	N/A	N/A	N/A	N/A	N/A
Cadmium	0.004	0.004	0.004	0.004	0.0040	N/A	0.0330	N/A	1.1833	YES
Chromium	0.005	0.005	0.005	0.005	0.0050	N/A	1.1000	N/A	39.4420	YES
Copper	0.02	0.02	0.02	0.02	0.0200	13.0000	0.0048	10.0000	0.1721	YES
Lead	0.005	0.005	0.005	0.005	0.0050	N/A	0.1400	N/A	5.0199	YES
Mercury	0.0002	0.0002	0.0002	0.0002	0.0002	N/A	0.0018	N/A	0.0645	YES
Nickel	0.005	0.005	0.005	0.005	0.0050	61.0000	0.0740	N/A	2.6534	YES
Selenium	0.01	0.01	0.01	0.01	0.0100	1.7000	0.2900	N/A	10.3983	YES
Silver	0.005	0.005	0.005	0.005	0.0050	N/A	0.0020	N/A	0.0717	YES
Thallium	0.0001	0.0001	0.0001	0.0001	0.0001	0.0024	N/A	N/A	N/A	N/A
Zinc	0.18	0.115	0.109	0.107	0.1278	74.0000	0.0900	50.0000	3.2271	YES
Cyanide	0.01	0.01	0.01	0.01	0.0100	0.0400	0.0010	N/A	0.0359	YES
Flow	12.14	10.3	10.29	7.93	10.165					

Table 6

City of Haverhill Wastewater Treatment Plant

2021 Sludge Pollutant Sampling

Parameter	January 11, 2021		March 17, 2021		July 28, 2021		November 8, 2021		Yearly Average Concentration	TCLP Limits (mg/L)	Within TCLP Limits?
	Reporting limits (mg/L)	Results (mg/L)*	Reporting limits (mg/L)	Results (mg/L)*	Reporting limits (mg/L)	Results (mg/L)*	Reporting limits (mg/L)	Results (mg/L)*			
Arsenic	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.050	5.0	YES
Barium	0.025	0.133	0.025	0.079	0.025	0.074	0.025	0.092	0.095	100.0	YES
Cadmium	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	1.0	YES
Chromium	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	5.0	YES
Lead	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	5.0	YES
Mercury	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.2	YES
Selenium	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.050	1.0	YES
Silver	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	5.0	YES

*Reporting limits will be used for all ND results to show the worst case sceneria

Table 7		
City of Haverhill Wastewater Treatment Plant		
2021 Merrimack River Pollutant Sampling		
Parameter	July 26, 2021 Results (mg/L)	EPA's National Recommended Water Quality Criteria: 2002 (mg/L)
Antimony	ND	N/A
Arsenic	ND	0.690
Beryllium	ND	N/A
Cadmium	ND	0.033
Chromium	ND	1.100
Copper	ND	0.005
Lead	ND	0.140
Mercury	ND	0.002
Nickel	ND	0.074
Selenium	ND	0.290
Silver	ND	0.002
Thallium	ND	N/A
Zinc	ND	0.090
Cyanide	ND	0.001

Appendix A

City of Haverhill
Industrial Pretreatment Program
Samples Collected by Industry and Quarter

Report Period: 01/01/2021 to 12/31/2021
Fiscal Year Starts: JAN

Permit: PTX-004
Permittee: Cabot
Location: 50 Rodgers Rd. , Ward Hill, MA. 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 4

Sample ID	Auth?	MonPoint	Sample Event Date	Scheduled By	Sampler	Comments
CBT 21-1-13		004	01-13-2021	IU		Sample collected by Industrial User
CBT 21-2-16		004	02-16-2021	IU		Sample collected by Industrial User
CBT 21-3-22		004	03-22-2021	IU		Sample collected by Industrial User
CBT 21-3-25		004	03-25-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 3

Sample ID	Auth?	MonPoint	Sample Event Date	Scheduled By	Sampler	Comments
CBT 21-4-22		004	04-22-2021	IU		Sample collected by Industrial User
CBT 21-5-18		004	05-18-2021	IU		Sample collected by Industrial User
CBT 21-6-15		004	06-15-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 3

Sample ID	Auth?	MonPoint	Sample Event Date	Scheduled By	Sampler	Comments
CBT 21-7-7		004	07-07-2021	IU		Sample collected by Industrial User
CBT 21-8-18		004	08-18-2021	IU		Sample collected by Industrial User
CBT 21-9-17		004	09-17-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 4

Sample ID	Auth?	MonPoint	Sample Event Date	Scheduled By	Sampler	Comments
CBT 21-10-13		004	10-13-2021	IU		Sample collected by Industrial User
CBT 21-11-10		004	11-10-2021	IU		Sample collected by Industrial User
CBT 21-12-7		004	12-07-2021	IU		Sample collected by Industrial User
CBT 21-12-8	A	004	12-08-2021	A		Sample collected by POTW personnel

City of Haverhill
Industrial Pretreatment Program
Samples Collected by Industry and Quarter

Report Period: 01/01/2021 to 12/31/2021
Fiscal Year Starts: JAN

Permit: PTX-004
Permittee: Cabot
Location: 50 Rodgers Rd. , Ward Hill, MA. 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 4

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CBT 21-1-13		004	01-13-2021	IU		Sample collected by Industrial User
CBT 21-2-16		004	02-16-2021	IU		Sample collected by Industrial User
CBT 21-3-22		004	03-22-2021	IU		Sample collected by Industrial User
CBT 21-3-25		004	03-25-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CBT 21-4-22		004	04-22-2021	IU		Sample collected by Industrial User
CBT 21-5-18		004	05-18-2021	IU		Sample collected by Industrial User
CBT 21-6-15		004	06-15-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CBT 21-7-7		004	07-07-2021	IU		Sample collected by Industrial User
CBT 21-8-18		004	08-18-2021	IU		Sample collected by Industrial User
CBT 21-9-17		004	09-17-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 4

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CBT 21-10-13		004	10-13-2021	IU		Sample collected by Industrial User
CBT 21-11-10		004	11-10-2021	IU		Sample collected by Industrial User
CBT 21-12-7		004	12-07-2021	IU		Sample collected by Industrial User
CBT 21-12-8	A	004	12-08-2021	A		Sample collected by POTW personnel

Permit: PTX-14007
 Permittee: Cedars Mediterranean Foods
 Location: 50 Foundation Ave , Haverhill, MA 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-1-4		003	01-04-2021	IU		Sample collected by Industrial User
CDR 21-1-13		003	01-13-2021	IU		Sample collected by Industrial User
CDR 20-1-18		003	01-18-2021	IU		Sample collected by Industrial User
CDR 21-1-25		003	01-25-2021	IU		Sample collected by Industrial User
CDR 21-2-2		003	02-02-2021	IU		Sample collected by Industrial User
CDR 21-2-8		003	02-08-2021	IU		Sample collected by Industrial User
CDR 21-2-15		003	02-15-2021	IU		Sample collected by Industrial User
CDR 21-2-22		003	02-22-2021	IU		Sample collected by Industrial User
CDR 21-3-2		003	03-02-2021	IU		Sample collected by Industrial User
CDR 21-3-8		003	03-08-2021	IU		Sample collected by Industrial User
CDR 21-3-15		003	03-15-2021			Sample collected by Industrial User
CDR 21-3-22		003	03-22-2021	IU		Sample collected by Industrial User
CDR 21-3-29		003	03-29-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-4-5		003	04-05-2021	IU		Sample collected by Industrial User
CDR 21-4-12		003	04-12-2021	IU		Sample collected by Industrial User
CDR 21-4-19		003	04-19-2021	IU		Sample collected by Industrial User
CDR 21-4-26		003	04-26-2021	IU		Sample collected by Industrial User
CDR 21-5-3		003	05-03-2021	IU		Sample collected by Industrial User
CDR 21-5-10		003	05-10-2021	IU		Sample collected by Industrial User
CDR 21-5-17		003	05-17-2021	IU		Sample collected by Industrial User
CDR 21-5-24		003	05-24-2021	IU		Sample collected by Industrial User
CDR 21-6-1		003	06-01-2021	IU		Sample collected by Industrial User
CDR 21-6-7		003	06-07-2021	IU		Sample collected by Industrial User
CDR 21-6-14		003	06-14-2021	IU		Sample collected by Industrial User
CDR 21-6-21		003	06-21-2021	IU		Sample collected by Industrial User
CDR 21-6-28		003	06-28-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-7-5		003	07-05-2021	IU		Sample collected by Industrial User
CDR 21-7-12		003	07-12-2021	IU		Sample collected by Industrial User
CDR 21-7-19		003	07-19-2021	IU		Sample collected by Industrial User
CDR 21-7-26		003	07-26-2021	IU		Sample collected by Industrial User
CDR 21-8-2		003	08-02-2021	IU		Sample collected by Industrial User
CDR 21-8-9		003	08-09-2021	IU		Sample collected by Industrial User
CDR 21-8-23		003	08-23-2021	IU		Sample collected by Industrial User
CDR 21-8-29		003	08-29-2021	IU		Sample collected by Industrial User
CDR 21-8-30		003	08-30-2021	IU		Sample collected by Industrial User
CDR 21-9-6		003	09-06-2021	IU		Sample collected by Industrial User
CDR 21-9-7		003	09-07-2021	IU		Sample collected by Industrial User
CDR 21-9-26		003	09-26-2021	IU		Sample collected by Industrial User
CDR 21-9-27		003	09-27-2021	IU		Sample collected by Industrial User

Permit: PTX-14007
Permittee: Cedars Mediterranean Foods
Location: 50 Foundation Ave , Haverhill, MA 01835

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
CDR 21-10-4		003	10-04-2021		IU		Sample collected by Industrial User
CDR 21-10-11		003	10-11-2021		IU		Sample collected by Industrial User
CDR 21-10-18		003	10-18-2021		IU		Sample collected by Industrial User
CDR 21-10-19	A	003	10-19-2021		A		Sample collected by POTW personnel
CDR 21-10-25		003	10-25-2021		IU		Sample collected by Industrial User
CDR 21-11-1		003	11-01-2021		IU		Sample collected by Industrial User
CDR 21-11-2		003	11-02-2021		IU		Sample collected by Industrial User
CDR 21-11-22		003	11-22-2021		IU		Sample collected by Industrial User
CDR 21-11-23		003	11-23-2021		IU		Sample collected by Industrial User
CDR 21-11-29		003	11-29-2021		IU		Sample collected by Industrial User
CDR 21-12-6		003	12-06-2021		IU		Sample collected by Industrial User
CDR 21-12-13		003	12-13-2021		IU		Sample collected by Industrial User
CDR 21-12-20		003	12-20-2021		IU		Sample collected by Industrial User
CDR 21-12-27		003	12-27-2021		IU		Sample collected by Industrial User

Permit: PTX-16007
 Permittee: Cedars Mediterranean Foods WH
 Location: 148 Ward Hill Ave , Haverhill, MA 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-1-4		001	01-04-2021	IU		Sample collected by Industrial User
CDR 21-1-13		001	01-13-2021	IU		Sample collected by Industrial User
CDR 21-1-18		001	01-18-2021	IU		Sample collected by Industrial User
CDR 21-1-25		001	01-25-2021	IU		Sample collected by Industrial User
CDR 21-2-2		001	02-02-2021	IU		Sample collected by Industrial User
CDR 21-2-8		001	02-08-2021	IU		Sample collected by Industrial User
CDR 21-2-15		001	02-15-2021	IU		Sample collected by Industrial User
CDR 21-2-22		001	02-22-2021	IU		Sample collected by Industrial User
CDR 21-3-2		001	03-02-2021	IU		Sample collected by Industrial User
CDR 21-3-8		001	03-08-2021	IU		Sample collected by Industrial User
CDR 21-3-15		001	03-15-2021	IU		Sample collected by Industrial User
CDR 21-3-22		001	03-22-2021	IU		Sample collected by Industrial User
CDR 21-3-29		001	03-29-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-4-5		001	04-05-2021	IU		Sample collected by Industrial User
CDR 21-4-12		001	04-12-2021	IU		Sample collected by Industrial User
CDR 21-4-19		001	04-19-2021	IU		Sample collected by Industrial User
CDR 21-4-26		001	04-26-2021	IU		Sample collected by Industrial User
CDR 21-5-3		001	05-03-2021	IU		Sample collected by Industrial User
CDR 21-5-10		001	05-10-2021	IU		Sample collected by Industrial User
CDR 21-5-17		001	05-17-2021	IU		Sample collected by Industrial User
CDR 21-5-24		001	05-24-2021	IU		Sample collected by Industrial User
CDR 21-6-1		001	06-01-2021	IU		Sample collected by Industrial User
CDR 21-6-7		001	06-07-2021	IU		Sample collected by Industrial User
CDR 21-6-14		001	06-14-2021	IU		Sample collected by Industrial User
CDR 21-6-21		001	06-21-2021	IU		Sample collected by Industrial User
CDR 21-6-28		001	06-28-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 13

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
CDR 21-7-5		001	07-05-2021	IU		Sample collected by Industrial User
CDR 21-7-12		001	07-12-2021	IU		Sample collected by Industrial User
CDR 21-7-19		001	07-19-2021	IU		Sample collected by Industrial User
CDR 21-7-26		001	07-26-2021	IU		Sample collected by Industrial User
CDR 21-8-2		001	08-02-2021	IU		Sample collected by Industrial User
CDR 21-8-9		001	08-09-2021	IU		Sample collected by Industrial User
CDR 21-8-23		001	08-23-2021	IU		Sample collected by Industrial User
CDR 21-8-29		001	08-29-2021	IU		Sample collected by Industrial User
CDR 21-8-30		001	08-30-2021	IU		Sample collected by Industrial User
CDR 21-9-6		001	09-06-2021	IU		Sample collected by Industrial User
CDR 21-9-7		001	09-07-2021	IU		Sample collected by Industrial User
CDR 21-9-26		001	09-26-2021	IU		Sample collected by Industrial User
CDR 21-9-27		001	09-27-2021	IU		Sample collected by Industrial User

Permit: PTX-16007
Permittee: Cedars Mediterranean Foods WH
Location: 148 Ward Hill Ave , Haverhill, MA 01835

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
CDR 21-10-4		001	10-04-2021		IU		Sample collected by Industrial User
CDR 21-10-11		001	10-11-2021		IU		Sample collected by Industrial User
CDR 21-10-18		001	10-18-2021		IU		Sample collected by Industrial User
CDR 21-10-25		001	10-25-2021		IU		Sample collected by Industrial User
CDR 21-10-29	A	001	10-29-2021		A		Sample collected by POTW personnel
CDR 21-11-1		001	11-01-2021		IU		Sample collected by Industrial User
CDR 21-11-2		001	11-02-2021		IU		Sample collected by Industrial User
CDR 21-11-22		001	11-22-2021		IU		Sample collected by Industrial User
CDR 21-11-23		001	11-23-2021		IU		Sample collected by Industrial User
CDR 21-11-29		001	11-29-2021		IU		Sample collected by Industrial User
CDR 21-12-6		001	12-06-2021		IU		Sample collected by Industrial User
CDR 21-12-13		001	12-13-2021		IU		Sample collected by Industrial User
CDR 21-12-20		001	12-20-2021		IU		Sample collected by Industrial User
CDR 21-12-27		001	12-27-2021		IU		Sample collected by Industrial User

Permit: 4953-01
Permittee: Covanta
Location: 100 Recovery Way , Haverhill, MA 01835

2021: Qtr 1 (Jan - Mar)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
COV 21-1-14		001	01-14-2021	IU		Sample collected by Industrial User
COV 21-2-10		001	02-10-2021	IU		Sample collected by Industrial User
COV 21-3-10		001	03-10-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
COV 21-4-14		001	04-14-2021	IU		Sample collected by Industrial User
COV 21-5-12		001	05-12-2021	IU		Sample collected by Industrial User
COV 21-6-10		001	06-10-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
COV 21-7-7		001	07-07-2021	IU		Sample collected by Industrial User
COV 21-8-19		001	08-19-2021	IU		Sample collected by Industrial User
COV 21-9-15		001	09-15-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)**Total Samples Collected: 4**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
COV 21-10-11		001	10-11-2021	IU		Sample collected by Industrial User
COV 21-11-10		001	11-10-2021	IU		Sample collected by Industrial User
COV 21-11-10	A	001	11-10-2021	A		Sample collected by POTW personnel
COV 21-12-14		001	12-14-2021	IU		Sample collected by Industrial User

Permit: 2899-01
 Permittee: EMD Performance Materials
 Location: 1429 Hilldale Ave. , Haverhill, MA 01832

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
EMD 21-2-26		001	02-26-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
EMD 21-4-1		001	04-01-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
EMD 21-7-1		001	07-01-2021	IU		Sample collected by Industrial User
EMD 21-8-6		001	08-06-2021	IU		Sample collected by Industrial User
EMD 21-9-2		001	09-02-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 4

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
EMD 21-10-7		001	10-07-2021	IU		Sample collected by Industrial User
EMD 21-11-4		001	11-04-2021	IU		Sample collected by Industrial User
EMD 21-11-8	A	001	11-08-2021	IU		Sample collected by POTW personnel
EMD 21-12-2		001	12-02-2021	IU		Sample collected by Industrial User

Permit: PTX-007 (3269-01)
Permittee: Gare
Location: 165 Rosemont St. , Haverhill, MA. 01830

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
GARE 21-3-11		007	03-11-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
GARE 21-6-29		007	06-29-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
GARE 21-9-14		007	09-14-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
GARE 21-10-21	A	007	10-21-2021	IU		Sample collected by POTW personnel

Permit: PTX-008 (0509-01)
 Permittee: Hans Kissel
 Location: 9 Creek Brook Drive , Haverhill, MA. 01832

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 7

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HK 21-1-6		008	01-06-2021	IU		Sample collected by Industrial User
HK 21-1-20		008	01-20-2021	IU		Sample collected by Industrial User
HK 21-2-3		008	02-03-2021	IU		Sample collected by Industrial User
HK 21-2-17		008	02-17-2021	IU		Sample collected by Industrial User
HK 21-3-3		008	03-03-2021	IU		Sample collected by Industrial User
HK 21-3-17		008	03-17-2021	IU		Sample collected by Industrial User
HK 21-3-31		008	03-31-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 5

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HK 21-4-14		008	04-14-2021	IU		Sample collected by Industrial User
HK 21-4-28		008	04-28-2021	IU		Sample collected by Industrial User
HK 21-5-12		008	05-12-2021	IU		Sample collected by Industrial User
HK 21-5-26		008	05-26-2021	IU		Sample collected by Industrial User
HK 21-6-9		008	06-09-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 7

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HK 21-7-8		008	07-08-2021	IU		Sample collected by Industrial User
HK 21-7-21		008	07-21-2021	IU		Sample collected by Industrial User
HK 21-8-4		008	08-04-2021	IU		Sample collected by Industrial User
HK 21-8-18		008	08-18-2021	IU		Sample collected by Industrial User
HK 21-9-1		008	09-01-2021	IU		Sample collected by Industrial User
HK 21-9-15		008	09-15-2021	IU		Sample collected by Industrial User
HK 21-9-29		008	09-29-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 7

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HK 21-10-13		008	10-13-2021	IU		Sample collected by Industrial User
HK 21-10-27		008	10-27-2021	IU		Sample collected by Industrial User
HK 21-11-10		008	11-10-2021	IU		Sample collected by Industrial User
HK 21-11-22		008	11-22-2021	IU		Sample collected by Industrial User
HK 21-11-22	A	008	11-22-2021	A		Sample collected by POTW personnel
HK 21-12-8		008	12-08-2021	IU		Sample collected by Industrial User
HK 21-12-21		008	12-21-2021	IU		Sample collected by Industrial User

Permit: PTX-010 (3679-10)
Permittee: I.M.I.
Location: 140 Hilldale Ave. , Haverhill, MA. 01832

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>			
IMI 21-1-20		010	01-20-2021	IU		Sample collected by Industrial User
IMI 21-2-3		010	02-03-2021	IU		Sample collected by Industrial User
IMI 21-3-17		010	03-17-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 6

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>			
IMI 21-4-14		010	04-14-2021	IU		Sample collected by Industrial User
IMI 21-5-5		010	05-05-2021	IU		Sample collected by Industrial User
IMI 21-6-14		010	06-14-2021	IU		Sample collected by Industrial User
IMI 21-6-15		010	06-15-2021	IU		Sample collected by Industrial User
IMI 21-6-16		010	06-16-2021	IU		Sample collected by Industrial User
IMI 21-6-17		010	06-17-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>			
IMI 21-7-21		010	07-21-2021	IU		Sample collected by Industrial User
IMI 21-8-16		010	08-16-2021	IU		Sample collected by Industrial User
IMI 21-9-15		010	09-15-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>			
IMI 21-10-27		010	10-27-2021	IU		Sample collected by Industrial User
IMI 21-11-10		010	11-10-2021	IU		Sample collected by Industrial User
IMI 21-12-15	A	010	12-15-2021	A		Sample collected by POTW personnel

Permit: PTX-018 (2099-02)
 Permittee: Joseph's Gourmet Pasta
 Location: 262 Primrose St. , Haverhill, MA. 01830

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 23

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
JGP 21-1-18		018B	01-18-2021		IU		Sample collected by Industrial User
JGP 21-1-18		018A	01-18-2021		IU		Sample collected by Industrial User
JGP 21-1-19		018A	01-19-2021		IU		Sample collected by Industrial User
JGP 21-1-19		018B	01-19-2021		IU		Sample collected by Industrial User
JGP 21-1-20		018A	01-20-2021		IU		Sample collected by Industrial User
JGP 21-1-20		018B	01-20-2021		IU		Sample collected by Industrial User
JGP 21-1-21		018A	01-21-2021		IU		Sample collected by Industrial User
JGP 21-1-21		018B	01-21-2021		IU		Sample collected by Industrial User
JGP 21-2-16		018A	02-16-2021		IU		Sample collected by Industrial User
JGP 21-2-16		018B	02-16-2021		IU		Sample collected by Industrial User
JGP 21-2-17		018B	02-17-2021		IU		Sample collected by Industrial User
JGP 21-2-17		018A	02-17-2021		IU		Sample collected by Industrial User
JGP 21-2-18		018A	02-18-2021		IU		Sample collected by Industrial User
JGP 21-2-18		018B	02-18-2021		IU		Sample collected by Industrial User
JGP 21-2-22		018B	02-22-2021		IU		Sample collected by Industrial User
JGP 21-2-22		018A	02-22-2021		IU		Sample collected by Industrial User
JGP 21-3-16		018B	03-16-2021		IU		Sample collected by Industrial User
JGP 21-3-16		018A	03-16-2021		IU		Sample collected by Industrial User
JGP 21-3-22		018A	03-22-2021		IU		Sample collected by Industrial User
JGP 21-3-22		018B	03-22-2021		IU		Sample collected by Industrial User
JGP 21-3-23		018B	03-23-2021		IU		Sample collected by Industrial User
JGP 21-3-23		018A	03-23-2021		IU		Sample collected by Industrial User
JGP 21-3-24		018A	03-24-2021		IU		Sample collected by Industrial User

Permit: PTX-018 (2099-02)
 Permittee: Joseph's Gourmet Pasta
 Location: 262 Primrose St. , Haverhill, MA. 01830

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 24

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
JGP 21-4-21		018A	04-21-2021		IU		Sample collected by Industrial User
JGP 21-4-21		018B	04-21-2021		IU		Sample collected by Industrial User
JGP 21-4-22		018A	04-22-2021		IU		Sample collected by Industrial User
JGP 21-4-22		018B	04-22-2021		IU		Sample collected by Industrial User
JGP 21-4-26		018A	04-26-2021		IU		Sample collected by Industrial User
JGP 21-4-26		018B	04-26-2021		IU		Sample collected by Industrial User
JGP 21-4-27		018A	04-27-2021		IU		Sample collected by Industrial User
JGP 21-4-27		018B	04-27-2021		IU		Sample collected by Industrial User
JGP 21-5-24		018B	05-24-2021		IU		Sample collected by Industrial User
JGP 21-5-24		018A	05-24-2021		IU		Sample collected by Industrial User
JGP 21-5-25		018A	05-25-2021		IU		Sample collected by Industrial User
JGP 21-5-25		018B	05-25-2021		IU		Sample collected by Industrial User
JGP 21-5-26		018A	05-26-2021		IU		Sample collected by Industrial User
JGP 21-5-26		018B	05-26-2021		IU		Sample collected by Industrial User
JGP 21-5-27		018B	05-27-2021		IU		Sample collected by Industrial User
JGP 21-5-27		018A	05-27-2021		IU		Sample collected by Industrial User
JGP 21-6-15		018A	06-15-2021		IU		Sample collected by Industrial User
JGP 21-6-15		018B	06-15-2021		IU		Sample collected by Industrial User
JGP 21-6-16		018B	06-16-2021		IU		Sample collected by Industrial User
JGP 21-6-16		018A	06-16-2021		IU		Sample collected by Industrial User
JGP 21-6-17		018A	06-17-2021		IU		Sample collected by Industrial User
JGP 21-6-17		018B	06-17-2021		IU		Sample collected by Industrial User
JGP 21-6-21		018B	06-21-2021		IU		Sample collected by Industrial User
JGP 21-6-21		018A	06-21-2021		IU		Sample collected by Industrial User

Permit: PTX-018 (2099-02)
 Permittee: Joseph's Gourmet Pasta
 Location: 262 Primrose St. , Haverhill, MA. 01830

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 24

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
JGP 21-7-19		018A	07-19-2021		IU		Sample collected by Industrial User
JGP 21-7-19		018B	07-19-2021		IU		Sample collected by Industrial User
JGP 21-7-20		018A	07-20-2021		IU		Sample collected by Industrial User
JGP 21-7-20		018B	07-20-2021		IU		Sample collected by Industrial User
JGP 21-7-21		018A	07-21-2021		IU		Sample collected by Industrial User
JGP 21-7-21		018B	07-21-2021		IU		Sample collected by Industrial User
JGP 21-7-22		018A	07-22-2021		IU		Sample collected by Industrial User
JGP 21-7-22		018B	07-22-2021		IU		Sample collected by Industrial User
JGP 21-8-16		018A	08-16-2021		IU		Sample collected by Industrial User
JGP 21-8-16		018B	08-16-2021		IU		Sample collected by Industrial User
JGP 21-8-17		018A	08-17-2021		IU		Sample collected by Industrial User
JGP 21-8-17		018B	08-17-2021		IU		Sample collected by Industrial User
JGP 21-8-18		018A	08-18-2021		IU		Sample collected by Industrial User
JGP 21-8-18		018B	08-18-2021		IU		Sample collected by Industrial User
JGP 21-8-19		018A	08-19-2021		IU		Sample collected by Industrial User
JGP 21-8-19		018B	08-19-2021		IU		Sample collected by Industrial User
JGP 21-9-21		018B	09-21-2021		IU		Sample collected by Industrial User
JGP 21-9-21		018A	09-21-2021		IU		Sample collected by Industrial User
JGP 21-9-22		018A	09-22-2021		IU		Sample collected by Industrial User
JGP 21-9-22		018B	09-22-2021		IU		Sample collected by Industrial User
JGP 21-9-23		018A	09-23-2021		IU		Sample collected by Industrial User
JGP 21-9-23		018B	09-23-2021		IU		Sample collected by Industrial User
JGP 21-9-28		018A	09-28-2021		IU		Sample collected by Industrial User
JGP 21-9-28		018B	09-28-2021		IU		Sample collected by Industrial User

Permit: PTX-018 (2099-02)
 Permittee: Joseph's Gourmet Pasta
 Location: 262 Primrose St. , Haverhill, MA. 01830

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 22

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
JGP 21-10-27		018B	10-27-2021		IU		Sample collected by Industrial User
JGP 21-10-27		018A	10-27-2021		IU		Sample collected by Industrial User
JGP 21-10-28		018B	10-28-2021		IU		Sample collected by Industrial User
JGP 21-10-28		018A	10-28-2021		IU		Sample collected by Industrial User
JGP 21-11-16		018B	11-16-2021		IU		Sample collected by Industrial User
JGP 21-11-16		018A	11-16-2021		IU		Sample collected by Industrial User
JGP 21-11-17		018B	11-17-2021		IU		Sample collected by Industrial User
JGP 21-11-17		018A	11-17-2021		IU		Sample collected by Industrial User
JGP 21-11-18		018A	11-18-2021		IU		Sample collected by Industrial User
JGP 21-11-18		018B	11-18-2021		IU		Sample collected by Industrial User
JGP 21-11-29		018B	11-29-2021		IU		Sample collected by Industrial User
JGP 21-11-29		018A	11-29-2021		IU		Sample collected by Industrial User
JGP 21-12-1	A	018B	12-01-2021		A		Sample collected by POTW personnel
JGP 21-12-9	A	018A	12-09-2021		A		Sample collected by POTW personnel
JGP 21-12-14		018B	12-14-2021		IU		Sample collected by Industrial User
JGP 21-12-14		018A	12-14-2021		IU		Sample collected by Industrial User
JGP 21-12-15		018A	12-15-2021		IU		Sample collected by Industrial User
JGP 21-12-15		018B	12-15-2021		IU		Sample collected by Industrial User
JGP 21-12-16		018B	12-16-2021		IU		Sample collected by Industrial User
JGP 21-12-16		018A	12-16-2021		IU		Sample collected by Industrial User
JGP 21-12-21		018A	12-21-2021		IU		Sample collected by Industrial User
JGP 21-12-21		018B	12-21-2021		IU		Sample collected by Industrial User

Permit: 3364-01
Permittee: Magellan Aerospace
Location: 20 Computer Dr , Haverhill, MA 01832

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MA 21-3-18		001	03-18-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 4

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MA 21-7-15		002	07-15-2021	IU		Sample collected by Industrial User
MA 21-7-15		001	07-15-2021	IU		Sample collected by Industrial User
MA 21-9-28		002	09-28-2021	IU		Sample collected by Industrial User
MA 21-9-28		001	09-28-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 2

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MA 21-12-16		001	12-16-2021	IU		Sample collected by Industrial User
MA 21-12-16		002	12-16-2021	IU		Sample collected by Industrial User

Permit: 7211-01
 Permittee: Metropolitan Linen Service
 Location: 105 Ward Hill Ave. , Haverhill, MA 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 7

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MLS 21-1-6		001	01-06-2021	IU		Sample collected by Industrial User
MLS 21-1-20		001	01-20-2021	IU		Sample collected by Industrial User
MLS 21-2-3		001	02-03-2021	IU		Sample collected by Industrial User
MLS 21-2-17		001	02-17-2021	IU		Sample collected by Industrial User
MLS 21-3-3		001	03-03-2021	IU		Sample collected by Industrial User
MLS 21-3-17		001	03-17-2021	IU		Sample collected by Industrial User
MLS 21-3-31		001	03-31-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 6

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MLS 21-4-14		001	04-14-2021	IU		Sample collected by Industrial User
MLS 21-4-28		001	04-28-2021	IU		Sample collected by Industrial User
MLS 21-5-12		001	05-12-2021	IU		Sample collected by Industrial User
MLS 21-5-26		001	05-26-2021	IU		Sample collected by Industrial User
MLS 21-6-16		001	06-16-2021	IU		Sample collected by Industrial User
MLS 21-6-23		001	06-23-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 8

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MLS 21-7-7		001	07-07-2021	IU		Sample collected by Industrial User
MLS 21-7-21		001	07-21-2021	IU		Sample collected by Industrial User
MLS 21-8-4		001	08-04-2021	IU		Sample collected by Industrial User
MLS 21-8-18		001	08-18-2021	IU		Sample collected by Industrial User
MLS 21-9-1		001	09-01-2021	IU		Sample collected by Industrial User
MLS 21-9-20		001	09-20-2021	IU		Sample collected by Industrial User
MLS 21-9-29		001	09-29-2021	IU		Sample collected by Industrial User
MLS 21-9-30		001	09-30-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 7

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
MLS 21-10-13		001	10-13-2021	IU		Sample collected by Industrial User
MLS 21-10-27		001	10-27-2021	IU		Sample collected by Industrial User
MLS 21-11-10		001	11-10-2021	IU		Sample collected by Industrial User
MLS 21-11-22		001	11-22-2021	IU		Sample collected by Industrial User
MLS 21-12-8		001	12-08-2021	IU		Sample collected by Industrial User
MLS 21-12-14	A	001	12-14-2021	A		Sample collected by POTW personnel
MLS 21-12-21		001	12-21-2021	IU		Sample collected by Industrial User

Permit: PTX-012
Permittee: MV Hospital
Location: 140 Lincoln Ave. , Haverhill, MA. 01830

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HFH 21-1-31		012	01-31-2021	IU		Sample collected by Industrial User
HFH 21-2-28		012	02-28-2021	IU		Sample collected by Industrial User
HFH 21-3-31		012	03-31-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 2

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HFH 21-5-31		012	05-31-2021	IU		Sample collected by Industrial User
HFH 21-6-30		012	06-30-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HFH 21-7-31		012	07-31-2021	IU		Sample collected by Industrial User
HFH 21-8-31		012	08-31-2021	IU		Sample collected by Industrial User
HFH 21-9-30		012	09-30-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 3

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
HFH 21-10-20		012	10-20-2021	IU		Sample collected by Industrial User
HFH 21-11-30		012	11-30-2021	IU		Sample collected by Industrial User
HFH 21-12-31		012	12-31-2021	IU		Sample collected by Industrial User

Permit: PTX-013
Permittee: Parker-Hannifin
Location: 260 Neck Rd. , Ward Hill, MA. 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
PH 21-3-29		013	03-29-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
PH 21-6-28		013	06-28-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 1

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
PH 21-9-28		013	09-28-2021	IU		Sample collected by Industrial User

Permit: PTX-014 (2842-01)
Permittee: Runtal NA
Location: 187 Neck Rd. , Ward Hill, MA. 01835

2021: Qtr 1 (Jan - Mar)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
RNTL 21-1-6		014	01-06-2021	IU		Sample collected by Industrial User
RNTL 21-2-17		014	02-17-2021	IU		Sample collected by Industrial User
RNTL 21-3-3		014	03-03-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
RNTL 21-4-7		014	04-07-2021	IU		Sample collected by Industrial User
RNTL 21-5-5		014	05-05-2021	IU		Sample collected by Industrial User
RNTL 21-6-3		014	06-03-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)**Total Samples Collected: 4**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
RNTL 21-7-7		014	07-07-2021	IU		Sample collected by Industrial User
RNTL 21-8-12		014	08-12-2021	IU		Sample collected by Industrial User
RNTL 21-9-8		014	09-08-2021	IU		Sample collected by Industrial User
RNTL 21-9-21	A	014	09-21-2021	A		Sample collected by POTW personnel

2021: Qtr 4 (Oct - Dec)**Total Samples Collected: 2**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
RNTL 21-10-6		014	10-06-2021	IU		Sample collected by Industrial User
RNTL 21-11-4		014	11-04-2021	IU		Sample collected by Industrial User

Permit: PTX-015 (3444-03)
Permittee: Specialized Plating, Inc.
Location: 15 Ward Hill Ave. , Ward Hill, MA. 01835

2021: Qtr 1 (Jan - Mar)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
SPI 21-1-5		015	01-05-2021	IU		Sample collected by Industrial User
SPI 21-2-9		015	02-09-2021	IU		Sample collected by Industrial User
SPI 21-3-3		015	03-03-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
SPI 21-4-5		015	04-05-2021	IU		Sample collected by Industrial User
SPI 21-5-11		015	05-11-2021	IU		Sample collected by Industrial User
SPI 21-6-10		015	06-10-2021	IU		Sample collected by Industrial User

2021: Qtr 3 (Jul - Sep)**Total Samples Collected: 3**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
SPI 21-7-20		015	07-20-2021	IU		Sample collected by Industrial User
SPI 21-8-11		015	08-11-2021	IU		Sample collected by Industrial User
SPI 21-9-14		015	09-14-2021	IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)**Total Samples Collected: 4**

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u> <u>Date</u>	<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
SPI 21-10-4		015	10-04-2021	IU		Sample collected by Industrial User
SPI 21-11-8		015	11-08-2021	IU		Sample collected by Industrial User
SPI 21-12-1		015	12-01-2021	IU		Sample collected by Industrial User
SPI 21-12-6	A	015	12-06-2021	A		Sample collected by POTW personnel

Permit: PTX-017 (2875-01)
 Permittee: Stewarts Septic Service
 Location: 20 So. Mill St. , Bradford, MA. 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 13

Sample ID	Auth?	MonPoint	Sample Event	Scheduled By	Sampler	Comments
			Date			
STW 21-1-4		017	01-04-2021	IU		Sample collected by Industrial User
STW 21-1-12		017	01-12-2021	IU		Sample collected by Industrial User
STW 21-1-20		017	01-20-2021	IU		Sample collected by Industrial User
STW 21-1-29		017	01-29-2021	IU		Sample collected by Industrial User
STW 21-2-4		017	02-04-2021	IU		Sample collected by Industrial User
STW 21-2-12		017	02-12-2021	IU		Sample collected by Industrial User
STW 21-2-16		017	02-16-2021	IU		Sample collected by Industrial User
STW 21-2-24		017	02-24-2021	IU		Sample collected by Industrial User
STW 21-3-1		017	03-01-2021	IU		Sample collected by Industrial User
STW 21-3-9		017	03-09-2021	IU		Sample collected by Industrial User
STW 21-3-17	A	017	03-17-2021	A		Sample collected by POTW personnel
STW 21-3-22		017	03-22-2021	IU		Sample collected by Industrial User
STW 21-3-25		017	03-25-2021	IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event	Scheduled By	Sampler	Comments
			Date			
STW 21-4-1		017	04-01-2021	IU		Sample collected by Industrial User
STW 21-4-7		017	04-07-2021	IU		Sample collected by Industrial User
STW 21-4-13		017	04-13-2021	IU		Sample collected by Industrial User
STW 21-4-19		017	04-19-2021	IU		Sample collected by Industrial User
STW 21-4-26		017	04-26-2021	IU		Sample collected by Industrial User
STW 21-5-3		017	05-03-2021	IU		Sample collected by Industrial User
STW 21-5-10		017	05-10-2021	IU		Sample collected by Industrial User
STW 21-5-17		017	05-17-2021	IU		Sample collected by Industrial User
STW 21-5-24		017	05-24-2021	IU		Sample collected by Industrial User
STW 21-6-2		017	06-02-2021	IU		Sample collected by Industrial User
STW 21-6-9		017	06-09-2021	IU		Sample collected by Industrial User
STW 21-6-14	A	017	06-14-2021	A		Sample collected by POTW personnel
STW 21-6-15		017	06-15-2021	IU		Sample collected by Industrial User
STW 21-6-21		017	06-21-2021	IU		Sample collected by Industrial User

Permit: PTX-017 (2875-01)
 Permittee: Stewarts Septic Service
 Location: 20 So. Mill St. , Bradford, MA. 01835

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event	Scheduled By	Sampler	Comments
			Date			
STW 21-7-1		017	07-01-2021	IU		Sample collected by Industrial User
STW 21-7-6		017	07-06-2021	IU		Sample collected by Industrial User
STW 21-7-15		017	07-15-2021	IU		Sample collected by Industrial User
STW 21-7-19		017	07-19-2021	IU		Sample collected by Industrial User
STW 21-7-26		017	07-26-2021	IU		Sample collected by Industrial User
STW 21-8-2		017	08-02-2021	IU		Sample collected by Industrial User
STW 21-8-9		017	08-09-2021	IU		Sample collected by Industrial User
STW 21-8-16		017	08-16-2021	IU		Sample collected by Industrial User
STW 21-8-23		017	08-23-2021	IU		Sample collected by Industrial User
STW 21-9-7		017	09-07-2021	IU		Sample collected by Industrial User
STW 21-9-13		017	09-13-2021	IU		Sample collected by Industrial User
STW 21-9-22		017	09-22-2021	IU		Sample collected by Industrial User
STW 21-9-27		017	09-27-2021	IU		Sample collected by Industrial User
STW 21-9-28	A	017	09-28-2021	A		Sample collected by POTW personnel

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event	Scheduled By	Sampler	Comments
			Date			
STW 21-10-5		017	10-05-2021	IU		Sample collected by Industrial User
STW 21-10-12		017	10-12-2021	IU		Sample collected by Industrial User
STW 21-10-18		017	10-18-2021	IU		Sample collected by Industrial User
STW 21-10-26		017	10-26-2021	IU		Sample collected by Industrial User
STW 21-11-2		017	11-02-2021	IU		Sample collected by Industrial User
STW 21-11-9		017	11-09-2021	IU		Sample collected by Industrial User
STW 21-11-16		017	11-16-2021	IU		Sample collected by Industrial User
STW 21-11-23		017	11-23-2021	IU		Sample collected by Industrial User
STW 21-11-29	A	017	11-29-2021	A		Sample collected by POTW personnel
STW 21-12-2		017	12-02-2021	IU		Sample collected by Industrial User
STW 21-12-6		017	12-06-2021	IU		Sample collected by Industrial User
STW 21-12-13		017	12-13-2021	IU		Sample collected by Industrial User
STW 21-12-20		017	12-20-2021	IU		Sample collected by Industrial User
STW 21-12-27		017	12-27-2021	IU		Sample collected by Industrial User

Permit: 5629-01
Permittee: United Site Services
Location: 239 Neck Rd. , Haverhill, MA 01835

2021: Qtr 1 (Jan - Mar)

Total Samples Collected: 15

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
USS 21-1-14		001	01-14-2021		IU		Sample collected by Industrial User
USS 21-1-18		001	01-18-2021		IU		Sample collected by Industrial User
USS 21-1-19		001	01-19-2021		IU		Sample collected by Industrial User
USS 21-1-20		001	01-20-2021		IU		Sample collected by Industrial User
USS 21-1-21		001	01-21-2021		IU		Sample collected by Industrial User
USS 21-2-11		001	02-11-2021		IU		Sample collected by Industrial User
USS 21-2-15		001	02-15-2021		IU		Sample collected by Industrial User
USS 21-2-16		001	02-16-2021		IU		Sample collected by Industrial User
USS 21-2-17		001	02-17-2021		IU		Sample collected by Industrial User
USS 21-2-18		001	02-18-2021		IU		Sample collected by Industrial User
USS 21-3-16		001	03-16-2021		IU		Sample collected by Industrial User
USS 21-3-17		001	03-17-2021		IU		Sample collected by Industrial User
USS 21-3-18		001	03-18-2021		IU		Sample collected by Industrial User
USS 21-3-23		001	03-23-2021		IU		Sample collected by Industrial User
USS 21-3-24		001	03-24-2021		IU		Sample collected by Industrial User

2021: Qtr 2 (Apr - Jun)

Total Samples Collected: 14

Sample ID	Auth?	MonPoint	Sample Event		Scheduled By	Sampler	Comments
			Date				
USS 21-4-22		001	04-22-2021		IU		Sample collected by Industrial User
USS 21-4-26		001	04-26-2021		IU		Sample collected by Industrial User
USS 21-4-27		001	04-27-2021		IU		Sample collected by Industrial User
USS 21-4-28		001	04-28-2021		IU		Sample collected by Industrial User
USS 21-5-20		001	05-20-2021		IU		Sample collected by Industrial User
USS 21-5-24		001	05-24-2021		IU		Sample collected by Industrial User
USS 21-5-25		001	05-25-2021		IU		Sample collected by Industrial User
USS 21-5-26		001	05-26-2021		IU		Sample collected by Industrial User
USS 21-5-27		001	05-27-2021		IU		Sample collected by Industrial User
USS 21-6-10		001	06-10-2021		IU		Sample collected by Industrial User
USS 21-6-14		001	06-14-2021		IU		Sample collected by Industrial User
USS 21-6-15		001	06-15-2021		IU		Sample collected by Industrial User
USS 21-6-16		001	06-16-2021		IU		Sample collected by Industrial User
USS 21-6-17		001	06-17-2021		IU		Sample collected by Industrial User

Permit: 5629-01
Permittee: United Site Services
Location: 239 Neck Rd. , Haverhill, MA 01835

2021: Qtr 3 (Jul - Sep)

Total Samples Collected: 11

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>		<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>				
USS 21-7-15		001	07-15-2021		IU		Sample collected by Industrial User
USS 21-7-19		001	07-19-2021		IU		Sample collected by Industrial User
USS 21-7-20		001	07-20-2021		IU		Sample collected by Industrial User
USS 21-7-21		001	07-21-2021		IU		Sample collected by Industrial User
USS 21-7-22		001	07-22-2021		IU		Sample collected by Industrial User
USS 21-8-12		001	08-12-2021		IU		Sample collected by Industrial User
USS 21-8-16		001	08-16-2021		IU		Sample collected by Industrial User
USS 21-8-17		001	08-17-2021		IU		Sample collected by Industrial User
USS 21-8-18		001	08-18-2021		IU		Sample collected by Industrial User
USS 21-8-19		001	08-19-2021		IU		Sample collected by Industrial User
USS 21-9-30		001	09-30-2021		IU		Sample collected by Industrial User

2021: Qtr 4 (Oct - Dec)

Total Samples Collected: 10

<u>Sample ID</u>	<u>Auth?</u>	<u>MonPoint</u>	<u>Sample Event</u>		<u>Scheduled By</u>	<u>Sampler</u>	<u>Comments</u>
			<u>Date</u>				
USS 21-10-21		001	10-21-2021		IU		Sample collected by Industrial User
USS 21-10-25		001	10-25-2021		IU		Sample collected by Industrial User
USS 21-10-26		001	10-26-2021		IU		Sample collected by Industrial User
USS 21-10-27		001	10-27-2021		IU		Sample collected by Industrial User
USS 21-10-28		001	10-28-2021		IU		Sample collected by Industrial User
USS 21-12-13		001	12-13-2021		IU		Sample collected by Industrial User
USS 21-12-14		001	12-14-2021		IU		Sample collected by Industrial User
USS 21-12-15		001	12-15-2021		IU		Sample collected by Industrial User
USS 21-12-16		001	12-16-2021		IU		Sample collected by Industrial User
USS 21-12-21		001	12-21-2021		IU		Sample collected by Industrial User

Appendix B



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 1G29060
Client Project: Annual Priority Pollutants

Report Date: 05-August-2021

Prepared for:

Haverhill WW
City of Haverhill WW
40 South Porter Street
Haverhill, MA 01835

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted:

The samples listed below were submitted to New England Testing Laboratory on 07/29/21. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 1G29060. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled
1G29060-01	Effluent 1	Water	07/27/2021
1G29060-02	Effluent 2	Water	07/27/2021
1G29060-03	Effluent 3	Water	07/28/2021
1G29060-04	Effluent 4	Water	07/28/2021

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Effluent 1

Cyanide

SM4500-CN-E (11)

Effluent 2

Volatile Organic Compounds
Acrolein, Acrylonitrile & 2-CEVE

EPA 624.1
EPA 624.1

Effluent 3

Nickel
Mercury
Silver
Arsenic
Beryllium
Cadmium
Copper
Lead
Antimony
Selenium
Thallium
Zinc
Chromium

EPA 6010C
EPA 7470A
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C
EPA 6010C

Effluent 4

Pesticides and PCBs
Acid Base/Neutral Extractables
Herbicides

EPA 608.3
EPA 625.1
EPA 8151A

The analytical methods provided are documented in the following references:

Manual of Methods for Chemical Analysis of Water and Water Wastes, EPA-600/4-79-020 (Revised 1983), USEPA/EMSL.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, APHA, AWWA-WPCF.

40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, Office of Federal Register National Archives and Records Administration.

Results:

Sample: Effluent 1 1G29060-01 (Water)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Cyanide	ND	0.010	mg/L	08/03/21

Sample: Effluent 2 1G29060-02 (Water)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Benzene	ND	1	ug/l	08/01/21
Bromodichloromethane	ND	1	ug/l	08/01/21
Bromoform	ND	1	ug/l	08/01/21
Bromomethane	ND	1	ug/l	08/01/21
Carbon tetrachloride	ND	1	ug/l	08/01/21
Chlorobenzene	ND	1	ug/l	08/01/21
Chloroethane	ND	1	ug/l	08/01/21
Chloroform	ND	1	ug/l	08/01/21
Chloromethane	ND	1	ug/l	08/01/21
Dibromochloromethane	ND	1	ug/l	08/01/21
1,2-Dichlorobenzene	ND	1	ug/l	08/01/21
1,3-Dichlorobenzene	ND	1	ug/l	08/01/21
1,4-Dichlorobenzene	ND	1	ug/l	08/01/21
1,1-Dichloroethane	ND	1	ug/l	08/01/21
1,2-Dichloroethane	ND	1	ug/l	08/01/21
trans-1,2-Dichloroethene	ND	1	ug/l	08/01/21
1,1-Dichloroethene	ND	1	ug/l	08/01/21
1,2-Dichloropropane	ND	1	ug/l	08/01/21
cis-1,3-Dichloropropene	ND	1	ug/l	08/01/21
trans-1,3-Dichloropropene	ND	1	ug/l	08/01/21
Methylene chloride	ND	5	ug/l	08/01/21
Tetrachloroethene	ND	1	ug/l	08/01/21
Toluene	ND	1	ug/l	08/01/21
1,1,2-Trichloroethane	ND	1	ug/l	08/01/21
1,1,1-Trichloroethane	ND	1	ug/l	08/01/21
Trichloroethene	ND	1	ug/l	08/01/21
Vinyl chloride	ND	1	ug/l	08/01/21
1,1,2,2-Tetrachloroethane	ND	1	ug/l	08/01/21
Trichlorofluoromethane	ND	1	ug/l	08/01/21
cis-1,2-Dichloroethene	ND	1	ug/l	08/01/21

Sample: Effluent 2 (Continued)
1G29060-02 (Water)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
o-Xylene	ND	1	ug/l	08/01/21
m&p-Xylene	ND	2	ug/l	08/01/21
Ethylbenzene	ND	1	ug/l	08/01/21
Surrogate(s)	Recovery %	Limits		
4-Bromofluorobenzene	97.2%	70-130		08/01/21
1,2-Dichloroethane-d4	97.3%	70-130		08/01/21
Toluene-d8	101%	70-130		08/01/21

Volatile Organic Compounds (Acrolein, Acrylonitrile & 2-CEVE)

	Result	Reporting Limit	Units	Date Analyzed
Acrolein	ND	5	ug/l	08/01/21 21:13
Acrylonitrile	ND	5	ug/l	08/01/21 21:13
2-Chloroethylvinyl ether	ND	1	ug/l	08/01/21 21:13
Surrogate(s)	Recovery %	Limits		
4-Bromofluorobenzene	97.2%	70-130		08/01/21 21:13
1,2-Dichloroethane-d4	97.3%	70-130		08/01/21 21:13
Toluene-d8	101%	70-130		08/01/21 21:13

Sample: Effluent 3
1G29060-03 (Water)

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	0.0002	mg/L	08/03/21
Silver	ND	0.005	mg/L	08/04/21
Arsenic	ND	0.01	mg/L	08/04/21
Beryllium	ND	0.005	mg/L	08/04/21
Cadmium	ND	0.005	mg/L	08/04/21
Chromium	ND	0.005	mg/L	08/04/21
Copper	ND	0.02	mg/L	08/04/21
Nickel	0.005	0.005	mg/L	08/04/21
Lead	ND	0.005	mg/L	08/04/21
Antimony	ND	0.005	mg/L	08/04/21
Selenium	ND	0.01	mg/L	08/04/21

Sample: Effluent 3 (Continued)
1G29060-03 (Water)

Total Metals (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Thallium	ND	0.005	mg/L	08/04/21
Zinc	0.109	0.020	mg/L	08/04/21

Sample: Effluent 4
1G29060-04 (Water)

Base/Neutral & Acid Extractables

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	2	ug/l	08/04/21
1,2-Dichlorobenzene	ND	2	ug/l	08/04/21
1,3-Dichlorobenzene	ND	2	ug/l	08/04/21
1,4-Dichlorobenzene	ND	2	ug/l	08/04/21
Phenol	ND	2	ug/l	08/04/21
2,4,6-Trichlorophenol	ND	2	ug/l	08/04/21
2,4-Dichlorophenol	ND	2	ug/l	08/04/21
2,4-Dimethylphenol	ND	10	ug/l	08/04/21
2,4-Dinitrophenol	ND	5	ug/l	08/04/21
2,4-Dinitrotoluene	ND	2	ug/l	08/04/21
2,6-Dinitrotoluene	ND	2	ug/l	08/04/21
2-Chloronaphthalene	ND	2	ug/l	08/04/21
2-Chlorophenol	ND	2	ug/l	08/04/21
Nitrobenzene	ND	2	ug/l	08/04/21
2-Nitrophenol	ND	5	ug/l	08/04/21
4,6-Dinitro-2-methylphenol	ND	5	ug/l	08/04/21
4-Bromophenyl phenyl ether	ND	2	ug/l	08/04/21
4-Chloro-3-methylphenol	ND	2	ug/l	08/04/21
4-Chlorophenyl phenyl ether	ND	2	ug/l	08/04/21
4-Nitrophenol	ND	5	ug/l	08/04/21
Acenaphthene	ND	2	ug/l	08/04/21
Acenaphthylene	ND	2	ug/l	08/04/21
Anthracene	ND	2	ug/l	08/04/21
Benzidine	ND	60	ug/l	08/04/21
Benzo(a)anthracene	ND	2	ug/l	08/04/21
Benzo(a)pyrene	ND	2	ug/l	08/04/21
Benzo(b)fluoranthene	ND	2	ug/l	08/04/21
Benzo(g,h,i)perylene	ND	2	ug/l	08/04/21
Benzo(k)fluoranthene	ND	2	ug/l	08/04/21
Bis(2-chloroethoxy)methane	ND	2	ug/l	08/04/21
Bis(2-chloroethyl)ether	ND	2	ug/l	08/04/21

Sample: Effluent 4 (Continued)
1G29060-04 (Water)

Base/Neutral & Acid Extractables (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	2	ug/l	08/04/21
Bis(2-ethylhexyl)phthalate	ND	6	ug/l	08/04/21
Butyl benzyl phthalate	ND	2	ug/l	08/04/21
Chrysene	ND	2	ug/l	08/04/21
Di(n)octyl phthalate	ND	3	ug/l	08/04/21
Dibenz(a,h)anthracene	ND	2	ug/l	08/04/21
Diethyl phthalate	ND	2	ug/l	08/04/21
Dimethyl phthalate	ND	2	ug/l	08/04/21
Di-n-butylphthalate	ND	3	ug/l	08/04/21
Fluoranthene	ND	2	ug/l	08/04/21
Fluorene	ND	2	ug/l	08/04/21
Hexachlorobenzene	ND	2	ug/l	08/04/21
Hexachlorobutadiene	ND	2	ug/l	08/04/21
Hexachlorocyclopentadiene	ND	5	ug/l	08/04/21
Hexachloroethane	ND	2	ug/l	08/04/21
Indeno(1,2,3-cd)pyrene	ND	2	ug/l	08/04/21
Isophorone	ND	2	ug/l	08/04/21
Naphthalene	ND	2	ug/l	08/04/21
N-Nitrosodimethylamine	ND	2	ug/l	08/04/21
N-Nitrosodi-n-propylamine	ND	2	ug/l	08/04/21
N-Nitrosodiphenylamine	ND	2	ug/l	08/04/21
Pentachlorophenol	ND	5	ug/l	08/04/21
Phenanthrene	ND	2	ug/l	08/04/21
Pyrene	ND	2	ug/l	08/04/21

Surrogate(s)	Recovery %	Limits	
<i>Nitrobenzene-d5</i>	45.7%	30-118	08/04/21
<i>p-Terphenyl-d14</i>	89.7%	38-130	08/04/21
<i>2-Fluorobiphenyl</i>	46.5%	30-119	08/04/21
<i>Phenol-d6</i>	15.6%	10-115	08/04/21
<i>2,4,6-Tribromophenol</i>	48.7%	15-130	08/04/21
<i>2-Fluorophenol</i>	21.1%	10-115	08/04/21

Pesticides and Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
4,4'-DDD	ND	0.1	ug/l	08/05/21
4,4'-DDE	ND	0.1	ug/l	08/05/21
4,4'-DDT	ND	0.1	ug/l	08/05/21
Aldrin	ND	0.1	ug/l	08/05/21

Sample: Effluent 4 (Continued)
1G29060-04 (Water)

Pesticides and Polychlorinated Biphenyls (PCBs) (Continued)

	Result	Reporting Limit	Units	Date Analyzed
alpha-BHC	ND	0.1	ug/l	08/05/21
beta-BHC	ND	0.1	ug/l	08/05/21
Chlordane	ND	0.5	ug/l	08/05/21
delta-BHC	ND	0.1	ug/l	08/05/21
Dieldrin	ND	0.1	ug/l	08/05/21
Endosulfan I	ND	0.1	ug/l	08/05/21
Endosulfan II	ND	0.1	ug/l	08/05/21
Endosulfan sulfate	ND	0.1	ug/l	08/05/21
Endrin	ND	0.1	ug/l	08/05/21
Endrin aldehyde	ND	0.1	ug/l	08/05/21
gamma-BHC (Lindane)	ND	0.1	ug/l	08/05/21
Heptachlor	ND	0.1	ug/l	08/05/21
Heptachlor epoxide	ND	0.1	ug/l	08/05/21
Methoxychlor	ND	0.1	ug/l	08/05/21
Toxaphene	ND	0.5	ug/l	08/05/21
Aroclor-1260	ND	0.2	ug/l	08/05/21
Aroclor-1254	ND	0.2	ug/l	08/05/21
Aroclor-1248	ND	0.2	ug/l	08/05/21
Aroclor-1242	ND	0.2	ug/l	08/05/21
Aroclor-1232	ND	0.2	ug/l	08/05/21
Aroclor-1221	ND	0.4	ug/l	08/05/21
Aroclor-1016	ND	0.2	ug/l	08/05/21
Surrogate(s)	Recovery %	Limits		
2,4,5,6-Tetrachloro-m-xylene (TCMX)	45.4%	30-129		08/05/21
Decachlorobiphenyl (DCBP)	71.9%	30-126		08/05/21

Herbicides

	Result	Reporting Limit	Units	Date Analyzed
Dalapon	ND	1.0	ug/l	08/02/21
Dicamba	ND	1.0	ug/l	08/02/21
Dichloroprop	ND	1.0	ug/l	08/02/21
2,4-D	ND	1.0	ug/l	08/02/21
2,4,5-TP (Silvex)	ND	1.0	ug/l	08/02/21
2,4,5-T	ND	1.0	ug/l	08/02/21
2,4-DB	ND	1.0	ug/l	08/02/21
Dinoseb	ND	1.0	ug/l	08/02/21

Work Order: 1G29060
Date: 8/5/2021 3:54:46PM

Sample: Effluent 4 (Continued)
1G29060-04 (Water)

Herbicides (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Surrogate(s)	Recovery %	Limits		
2,4-Dichlorophenyl acetic acid	44.4%	30-150		08/02/21

Case Narrative

VOA Sample "Effluent 2": "Acrolein", "Acrylonitrile", and "2-CEVE" were analyzed using the preserved sample provided.

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies when applicable.



New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 1J20047

Client Project: Quarterly

Report Date: 27-October-2021

Prepared for:

Haverhill WW
City of Haverhill WW
40 South Porter Street
Haverhill, MA 01835

Richard Warila, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
rich.warila@newenglandtesting.com

Samples Submitted:

The samples listed below were submitted to New England Testing Laboratory on 10/20/21. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 1J20047. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled
1J20047-01	Influent Grab	Water	10/18/2021
1J20047-02	Effluent Grab	Water	10/19/2021
1J20047-03	Influent Composite	Water	10/19/2021
1J20047-04	Effluent Composite	Water	10/20/2021

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Effluent Composite

Zinc	EPA 200.7
Mercury	EPA 245.1
Silver	EPA 200.7
Arsenic	EPA 200.7
Beryllium	EPA 200.7
Cadmium	EPA 200.7
Chromium	EPA 200.7
Copper	EPA 200.7
Nickel	EPA 200.7
Lead	EPA 200.7
Antimony	EPA 200.7
Selenium	EPA 200.7
Thallium	EPA 200.8

Effluent Grab

Cyanide	SM4500-CN-E (11)
---------	------------------

Influent Composite

Mercury	EPA 245.1
Silver	EPA 200.7
Arsenic	EPA 200.7
Beryllium	EPA 200.7
Cadmium	EPA 200.7
Chromium	EPA 200.7
Copper	EPA 200.7
Nickel	EPA 200.7
Lead	EPA 200.7
Antimony	EPA 200.7
Selenium	EPA 200.7
Zinc	EPA 200.7

Influent Composite

Thallium

(continued)

EPA 200.8

Influent Grab

Cyanide

SM4500-CN-E (11)

The analytical methods provided are documented in the following references:

Manual of Methods for Chemical Analysis of Water and Water Wastes, EPA-600/4-79-020 (Revised 1983), USEPA/EMSL.

Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, APHA, AWWA-WPCF.

40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, Office of Federal Register National Archives and Records Administration.

Work Order: 1J20047
Date: 10/27/2021 11:29:11AM

Results:

Sample: Influent Grab 1J20047-01 (Water)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Cyanide	ND	0.010	mg/L	10/26/21

Sample: Effluent Grab 1J20047-02 (Water)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Cyanide	ND	0.010	mg/L	10/26/21

Sample: Influent Composite 1J20047-03 (Water)

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Thallium	ND	0.0001	mg/L	10/25/21
Mercury	ND	0.0002	mg/L	10/26/21
Silver	ND	0.005	mg/L	10/25/21
Arsenic	ND	0.010	mg/L	10/25/21
Beryllium	ND	0.005	mg/L	10/25/21
Cadmium	ND	0.004	mg/L	10/25/21
Chromium	ND	0.005	mg/L	10/25/21
Copper	0.050	0.020	mg/L	10/25/21
Nickel	0.005	0.005	mg/L	10/25/21
Lead	ND	0.005	mg/L	10/25/21
Antimony	ND	0.005	mg/L	10/25/21
Selenium	ND	0.010	mg/L	10/25/21
Zinc	0.466	0.020	mg/L	10/25/21

Sample: Effluent Composite 1J20047-04 (Water)

Work Order: 1J20047
Date: 10/27/2021 11:29:11AM

Sample: Effluent Composite (Continued)
1J20047-04 (Water)

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Thallium	ND	0.0001	mg/L	10/25/21
Mercury	ND	0.0002	mg/L	10/26/21
Silver	ND	0.005	mg/L	10/25/21
Arsenic	ND	0.010	mg/L	10/25/21
Beryllium	ND	0.005	mg/L	10/25/21
Cadmium	ND	0.004	mg/L	10/25/21
Chromium	ND	0.005	mg/L	10/25/21
Copper	ND	0.020	mg/L	10/25/21
Nickel	ND	0.005	mg/L	10/25/21
Lead	ND	0.005	mg/L	10/25/21
Antimony	ND	0.005	mg/L	10/25/21
Selenium	ND	0.010	mg/L	10/25/21
Zinc	0.107	0.020	mg/L	10/25/21

Case Narrative

Total Cyanide: The matrix spike for the 1J20047-01 sample recovered outside of the method recommended QC parameters due to matrix interference.

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies when applicable.





77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

New England Bioassay Inc.

Aquatic Toxicity Testing Services

ACUTE AQUATIC TOXICITY TEST REPORT

Permittee: Haverhill WWTP NPDES # MA0101621
Report submitted to: 40 South Porter Street
Bradford, MA 01835
Sample ID: Effluent
Test Month/Year: July 2021
NEB Proj # 533396

Test Type / Method: *Pimephales promelas* Acute Static Non-Renewal Freshwater
Test Method 2000.0; EPA 821-R-02-012

Effluent Sample Date (s): 7/19-20/21 Time (s): 0945-0945
Receiving Water Sample Date: 7/20/21 Time: 1000

Test Start Date: 7/20/21

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	A-NOEC	Permit Limit	Pass / Fail
<i>Pimephales promelas</i>	>100%	100%	≥ 100%	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

This report shall not be reproduced, except in its entirety, without approval of NEB. NEB is the sole authority for authorizing edits or modifications to the data contained in this report. NEB holds no responsibility for results and/or data that are not consistent with the original. Please contact the Lab Director, Kimberly Wills, at 860-643-9560 or kimberly.wills@nebio.com if you have questions concerning these results.

TEST REPORT CERTIFICATION

Permittee name: Haverhill WWTP Permit number: MA0101621
Client sample ID: Effluent Test Start Date: 7/20/21

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: _____
(Date)

Authorized Signature

Print or Type Name and Title

Print or Type the Permittee's Name

MA0101621

Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 8/2/21
(Date)

Kimberly Wills

Kimberly Wills
Laboratory Director
New England Bioassay Inc.

GENERAL TEST CONDITIONS

Permittee name: Haverhill WWTP Permit number: MA0101621
Client sample ID: Effluent Test Start Date: 7/20/21

Sample Collection Information

Effluent Sample Date (s): 7/19-20/21 Time (s): 0945-0945
Receiving Water Sample Date: 7/20/21 Time: 1000

Were samples used within the first 36 hours of collection? Yes ☒ No ☐ * (see note below)
* sample collection note:

Test Conditions

Permittee's Receiving Water: Merrimack River

Pimephales promelas

- Dilution water: Receiving water collected at a point immediately upstream of or away from the discharge
- Control water: Laboratory synthetic soft water (hardness 45 - 55 mg/L CaCO₃)

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 50%, 100%

Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to _____ ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Chlorine was elevated due to interference. Chlorine was ≤ 0.05 mg/L by amperometric titration

Aeration: Did Dissolved Oxygen levels fall below 40% saturation? Yes ☐ No ☒

Test Aerated at <100 bubbles/minute as of: N/A (for Fathead minnow test only)

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Fathead minnows

Date: 7/6/21
Toxicant: Sodium chloride
Dilution Water: NEB Soft Water
Organism Source: NEB
Survival 48-h LC50: 6.06 g/L
Results within range Yes ☒ No ☐

TEST RESULTS

Permittee name: Haverhill WWTP Permit number: MA0101621
 Client sample ID: Effluent Test Start Date: 7/20/21

Test Acceptability Criteria

Lab Control Survival: 100 %
 Diluent Control Survival: 100 %
 Thiosulfate Control Survival: N/A %

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section

Test Results

<i>Pimephales promelas</i>			
	Results	Permit Limit	Pass/Fail
48 hr LC50	>100%	≥ 100%	Pass
Upper Confidence Limit	±∞		
Lower Confidence Limit	100%		
Method Used	Graphical		
48 hr A-NOEC	100%		

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section

Concentration - Response Evaluation

Fatheads: #12 No significant effects at any test concentration with a flat concentration-response curve.
 Test concentrations performed very similarly to dilution control.

The concentration - response relationship was reviewed and the following determination was made:

- ☒ Results are reliable and reportable
☐ Results are anomalous (see explanation below)
☐ Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

TEST METHODS

Pimephales promelas

Test type:	Acute Static Non-Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-012 "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms and Marine Organisms"
Test Method:	<i>Pimephales promelas</i> Survival Acute Toxicity Test - EPA 2000.0
Temperature:	25 °C ± 1°C (Temperatures should not deviate by more than 3°C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m ² /s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	250 - 1000 mL (250 mL is the recommended minimum)
Test solution volume:	250 mL (200 mL is the recommended minimum)
Age of Test Organisms:	1-14 days; less than or equal to 24-h range in age (required)
Number of Organisms Per Test Chamber:	10 (recommended)
Number of Replicate Test Chambers Per Treatment:	4 (required minimum)
Number of Organisms Per Test Concentration:	40 (required minimum)
Feeding Regime:	None
Aeration:	None, unless DO concentration falls below 4.0 mg/L, at which point the rate should not exceed 100 bubbles/minute. (recommended)
Test Duration:	48 hours (required)
Endpoints:	Survival - 48 hour LC50 and NOAEL
Test Acceptability:	≥ 90% survival of test organisms in controls (required)
Sampling Requirements:	Maximum holding time of 36 hours before first use
Sample volume required:	2 L (recommended)

DATASHEETS & STATISTICAL ANALYSIS

**NEW ENGLAND BIOASSAY
ACUTE TOXICITY DATA FORM**

CLIENT: Haverhill WWTP
ADDRESS: 40 South Porter Street
Bradford, MA 01835
PERMITTEE: Haverhill WWTP
PERMIT NUMBER: MA0101621
DILUTION WATER: Merrimack River

P.promelas TEST ID # 21-1015
CHAIN OF CUSTODY # C41-2968/69
NEB PROJECT # 533396
SAMPLE ID: Effluent

VERTEBRATES

TEST SET-UP TECHNICIAN: CH
TEST SPECIES: *Pimephales promelas*
NEB LOT # Pp21 (7-7) 1525
AGE: 14 days
TEST SOLUTION VOLUME (mls): 500
ORGANISMS PER TEST CHAMBER: 10
ORGANISMS PER CONCENTRATION: 40

	DATE	TIME
TEST START:	7/20/21	1608
TEST END:	7/22/21	1526

LABORATORY CONTROL WATER (SRCF)

Lot Number	Hardness mg/L CaCO ₃	Alkalinity mg/L CaCO ₃
C41-S015	46	30

COMMENTS: _____

REVIEWED BY: Kimberly Wills DATE: 8/2/21

NEW ENGLAND BIOASSAY
***Pimephales promelas* TEST DATASHEET**

Facility Name: Haverhill WWTP NEB Test ID: 21-1015
 NEB Project # 533396 Test Start Date: 7/20/21

Effluent Concentration (%)	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (s.u.)		
Hours	0	24	48	0	24	48	0	24	48	0	24	48
Control A	10	10	10	8.2	7.1	7.2	25.0	24.3	25.8	7.3	7.4	7.2
Control B	10	10	10		7.2	7.1		24.2	25.8		7.4	7.2
Control C	10	10	10		7.3	7.1		24.1	25.7		7.3	7.2
Control D	10	10	10		7.3	7.0		24.2	25.7		7.3	7.2
Diluent A	10	10	10	8.5	7.4	7.0	24.9	24.2	25.9	6.9	7.1	7.0
Diluent B	10	10	10		7.2	6.8		24.0	25.9		7.0	7.0
Diluent C	10	10	10		7.2	6.8		24.0	25.8		6.9	7.0
Diluent D	10	10	10		7.3	7.0		24.0	25.5		6.9	7.0
6.25 A	10	10	10	8.5	7.4	7.0	24.7	24.1	25.9	6.9	6.8	7.0
6.25 B	10	10	10		7.3	6.9		24.1	25.8		6.8	7.0
6.25 C	10	10	10		7.3	6.8		24.0	25.6		6.8	7.0
6.25 D	10	10	9		7.2	6.9		24.0	25.5		6.7	7.0
12.5 A	10	10	10	8.4	7.2	7.0	24.6	24.1	25.6	6.9	6.7	7.0
12.5 B	10	10	10		7.2	6.8		24.1	25.8		6.7	7.1
12.5 C	10	10	10		7.2	6.7		24.0	25.4		6.7	7.1
12.5 D	10	10	10		7.1	6.9		24.0	25.4		6.7	7.1
25 A	10	10	10	8.5	7.3	6.8	24.7	24.0	25.9	6.9	6.7	7.1
25 B	10	10	10		7.1	6.7		24.1	25.6		6.8	7.1
25 C	10	10	10		7.1	6.6		24.0	25.3		6.7	7.2
25 D	10	10	10		7.0	6.8		24.0	25.3		6.8	7.2
50 A	10	10	10	8.5	7.1	6.8	24.6	24.0	25.5	7.0	6.7	7.1
50 B	10	10	10		7.1	6.8		24.0	25.6		6.8	7.2
50 C	10	10	10		7.2	6.7		24.0	25.4		6.8	7.2
50 D	10	10	10		7.2	6.8		24.0	25.4		6.8	7.2
100 A	10	10	10	8.6	7.0	6.9	24.3	24.0	25.8	7.0	6.8	7.2
100 B	10	10	10		7.0	6.6		24.1	25.7		6.9	7.3
100 C	10	10	10		7.1	6.6		24.0	25.2		6.9	7.3
100 D	10	9	9		7.1	6.5		24.0	25.3		6.9	7.3
Technician Initials	CH	CMH	CW	CH	CMH	CW	CH	CMH	CW	CH	CMH	CW

D.O. concentration fell below 4.0 mg/L N/A

All test solutions were aerated at <100 bubbles/minute starting on N/A

CETIS Analytical Report

Report Date: 02 Aug-21 14:31 (p 1 of 2)
Test Code/ID: 21-1015 / 05-9519-3219

Fathead Minnow 48-h Acute Survival Test				New England Bioassay	
Analysis ID:	20-3791-9658	Endpoint:	48h Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	02 Aug-21 14:30	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1
Edit Date:	02 Aug-21 14:29	MD5 Hash:	904D7591459D127AC0FFB9B080CF64ED	Editor ID:	002-997-881-4
Batch ID:	09-5408-0080	Test Type:	Survival (48h)	Analyst:	
Start Date:	20 Jul-21 16:08	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Receiving Water
Ending Date:	22 Jul-21 15:26	Species:	Pimephales promelas	Brine:	
Test Length:	47h	Taxon:	Actinopterygii	Source:	In-House Culture
					Age: 14d
Sample ID:	18-6801-8927	Code:	6F57B4EF	Project:	
Sample Date:	20 Jul-21 09:45	Material:	WWTF Effluent	Source:	Haverhill WWTP (MA0101621)
Receipt Date:	20 Jul-21 13:43	CAS (PC):		Station:	
Sample Age:	6h	Client:	Haverhill		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.05598	5.60%

Steel Many-One Rank Sum Test									
Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	16	10	1	6	CDF	0.6105	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	16	10	1	6	CDF	0.6105	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088531	0.0017706	5	0.8	0.5640	Non-Significant Effect
Error	0.039839	0.0022133	18			
Total	0.0486921		23			

ANOVA Assumptions Tests					
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.6154	0.884	<1.0E-05	Non-Normal Distribution

48h Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	% Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%

Angular (Corrected) Transformed Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	% Effect
0	D	4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
6.25		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%
12.5		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
50		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
100		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%

CETIS Analytical Report

Report Date: 02 Aug-21 14:31 (p 2 of 2)
Test Code/ID: 21-1015 / 05-9519-3219

Fathead Minnow 48-h Acute Survival Test

New England Bioassay

Analysis ID: 20-3791-9658 Endpoint: 48h Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 02 Aug-21 14:30 Analysis: Nonparametric-Control vs Treatments Status Level: 1
Edit Date: 02 Aug-21 14:29 MD5 Hash: 904D7591459D127AC0FFB9B080CF64ED Editor ID: 002-997-881-4

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	0.9000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	0.9000

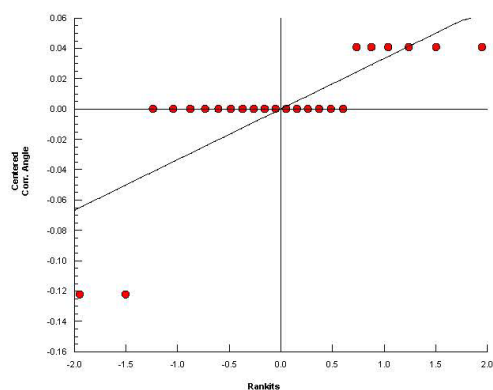
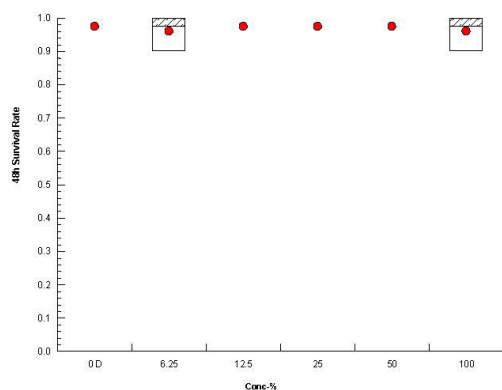
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.4120	1.4120
6.25		1.4120	1.4120	1.4120	1.2490
12.5		1.4120	1.4120	1.4120	1.4120
25		1.4120	1.4120	1.4120	1.4120
50		1.4120	1.4120	1.4120	1.4120
100		1.4120	1.4120	1.4120	1.2490

48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	9/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	9/10

Graphics



CETIS Analytical Report

Report Date: 02 Aug-21 14:31 (p 1 of 2)
Test Code/ID: 21-1015 / 05-9519-3219

Fathead Minnow 48-h Acute Survival Test				New England Bioassay	
Analysis ID:	14-7191-0717	Endpoint:	48h Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	02 Aug-21 14:30	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	02 Aug-21 14:29	MD5 Hash:	904D7591459D127AC0FFB9B080CF64ED	Editor ID:	002-997-881-4
Batch ID:	09-5408-0080	Test Type:	Survival (48h)	Analyst:	
Start Date:	20 Jul-21 16:08	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Receiving Water
Ending Date:	22 Jul-21 15:26	Species:	Pimephales promelas	Brine:	
Test Length:	47h	Taxon:	Actinopterygii	Source:	In-House Culture
					Age: 14d
Sample ID:	18-6801-8927	Code:	6F57B4EF	Project:	
Sample Date:	20 Jul-21 09:45	Material:	WWTF Effluent	Source:	Haverhill WWTP (MA0101621)
Receipt Date:	20 Jul-21 13:43	CAS (PC):		Station:	
Sample Age:	6h	Client:	Haverhill		

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	435712	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

48h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	% Effect	A/B	Mean	% Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
6.25		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9937	0.63%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9937	0.63%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9937	0.63%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9937	0.63%
100		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9750	2.50%

48h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	0.9000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	0.9000

48h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	10/10	10/10	9/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	9/10

CETIS Analytical Report

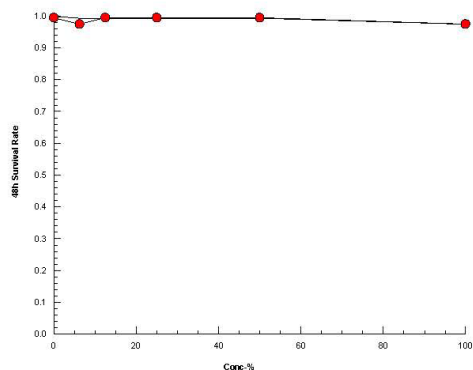
Report Date: 02 Aug-21 14:31 (p 2 of 2)
Test Code/ID: 21-1015 / 05-9519-3219

Fathead Minnow 48-h Acute Survival Test

New England Bioassay

Analysis ID: 14-7191-0717	Endpoint: 48h Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 02 Aug-21 14:30	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 02 Aug-21 14:29	MD5 Hash: 904D7591459D127AC0FFB9B080CF64ED	Editor ID: 002-997-881-4

Graphics



CHEMICAL ANALYSIS

Please note the subcontract laboratory has its own QAQC and data review processes, and therefore New England Bioassay does not review the analytical results we receive.



Wednesday, July 28, 2021

Attn: Ms. Kim Wills
New England Bioassay
77 Batson Drive
Manchester, CT 06040

Project ID: HAVERHILL WWTP
SDG ID: GCI77084
Sample ID#s: CI77084 - CI77086

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 28, 2021

SDG I.D.: GCI77084

Project ID: HAVERHILL WWTP

Client Id	Lab Id	Matrix
EFFLUENT C41-2968	CI77084	WASTE WATER
MERIMACK RIVER C41-2969	CI77085	WATER
EFF GRAB	CI77086	WASTE WATER



Environmental Laboratories, Inc.
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Analysis Report

July 28, 2021

FOR: Attn: Ms. Kim Wills
New England Bioassay
77 Batson Drive
Manchester, CT 06040

Sample Information

Matrix: WASTE WATER
Location Code: NEB
Rush Request: Standard
P.O.#: 23004

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

07/20/21 9:45
07/20/21 14:16

Laboratory Data

SDG ID: GC177084
Phoenix ID: C177084

Project ID: HAVERHILL WWTP
Client ID: EFFLUENT C41-2968

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aluminum	0.029	0.010	mg/L	1	07/23/21	TH	E200.7
Cadmium	< 0.0001	0.0001	mg/L	1	07/22/21	CPP	SM3113B
Copper	0.0028	0.0010	mg/L	1	07/23/21	TH	E200.7
Hardness (CaCO ₃)	126	0.1	mg/L	1	07/23/21		SM2340B
Nickel	0.003	0.001	mg/L	1	07/23/21	TH	E200.7
Lead	< 0.0003	0.0003	mg/L	1	07/21/21	CPP	SM3113B
Zinc	0.086	0.002	mg/L	1	07/23/21	TH	E200.7
Alkalinity-CaCO ₃	45.0	5.00	mg/L	1	07/21/21	MW/EG	SM2320B-11
Conductivity	1130	5.00	umhos/cm	1	07/21/21	MW/EG	SM2510B-11
Dissolved Organic Carbon	7.4	1.0	mg/L	1	07/21/21	ARG/BJA	SM5310B-11
Ammonia as Nitrogen	1.03	0.05	mg/L	1	07/27/21	KDB	E350.1
Tot. Diss. Solids	660	10	mg/L	1	07/21/21	MCH/QH	SM2540C-11
Tot. Org. Carbon	7.50	0.50	mg/L	1	07/21/21	ARG/BJA	SM5310B-11
Phosphorus, as P	0.200	0.010	mg/L	1	07/21/21	JR	SM4500PE-11
Total Solids	710	10	mg/L	1	07/21/21	LCB/QH	SM2540B-11
Total Metals Digestion	Completed				07/20/21	AG/C	

Project ID: HAVERHILL WWTP
Client ID: EFFLUENT C41-2968

Phoenix I.D.: CI77084

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 28, 2021

Reviewed and Released by: Helen Geoghegan, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 28, 2021

FOR: Attn: Ms. Kim Wills
New England Bioassay
77 Batson Drive
Manchester, CT 06040

Sample Information

Matrix: WATER
Location Code: NEB
Rush Request: Standard
P.O.#: 23004

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

07/20/21 10:00
07/20/21 14:16

Laboratory Data

SDG ID: GC177084
Phoenix ID: C177085

Project ID: HAVERHILL WWTP
Client ID: MERIMACK RIVER C41-2969

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aluminum	0.157	0.010	mg/L	1	07/23/21	TH	SW6010D/E200.7
Cadmium	< 0.0001	0.0001	mg/L	1	07/22/21	CPP	SM3113B/SW7010-10
Copper	< 0.0010	0.0010	mg/L	1	07/23/21	TH	SW6010D/E200.7
Hardness (CaCO ₃)	19.1	0.1	mg/L	1	07/23/21		E200.7
Nickel	< 0.001	0.001	mg/L	1	07/23/21	TH	SW6010D/E200.7
Lead	0.0011	0.0003	mg/L	1	07/21/21	CPP	SM3113B/SW7010
Zinc	0.004	0.002	mg/L	1	07/23/21	TH	SW6010D/E200.7
Alkalinity-CaCO ₃	15.2	5.00	mg/L	1	07/21/21	MW/EG	SM2320B-11
Conductivity	169	5.00	umhos/cm	1	07/21/21	MW/EG	SM2510B-11
Dissolved Organic Carbon	9.3	1.0	mg/L	1	07/21/21	ARG/BJA	SM5310B-11
Ammonia as Nitrogen	0.14	0.05	mg/L	1	07/27/21	KDB	E350.1
pH	6.84	1.00	pH Units	1	07/21/21 05:13	MW/EG	SM4500-H B-11
Tot. Org. Carbon	9.49	0.50	mg/L	1	07/21/21	ARG/BJA	SM5310B-11
Phosphorus, as P	0.049	0.010	mg/L	1	07/21/21	JR	SM4500PE-11
Total Metals Digestion	Completed				07/20/21	AG/C	

Project ID: HAVERHILL WWTP
Client ID: MERIMACK RIVER C41-2969

Phoenix I.D.: CI77085

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 28, 2021

Reviewed and Released by: Helen Geoghegan, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 28, 2021

FOR: Attn: Ms. Kim Wills
New England Bioassay
77 Batson Drive
Manchester, CT 06040

Sample Information

Matrix: WASTE WATER
Location Code: NEB
Rush Request: Standard
P.O.#: 23004

Custody Information

Collected by:
Received by: SW
Analyzed by: see "By" below

Date Time

07/20/21 9:50
07/20/21 14:16

Laboratory Data

SDG ID: GCI77084
Phoenix ID: CI77086

Project ID: HAVERHILL WWTP
Client ID: EFF GRAB

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chlorine Residual	0.116	0.011	mg/L	1	07/20/21 19:00	MW	SM4500CLG-97
pH	7.29	1.00	pH Units	1	07/21/21 05:16	MW/EG	SM4500-H B-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 28, 2021

Reviewed and Released by: Helen Geoghegan, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 28, 2021

QA/QC Data

SDG I.D.: GCI77084

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 584058 (mg/L), QC Sample No: CI75870 (CI77084, CI77085)													
Cadmium - Water	BRL	0.0001				120						75 - 125	20
QA/QC Batch 584221 (mg/L), QC Sample No: CI77081 (CI77084, CI77085)													
Lead (Furnace) - Water	BRL	0.001	0.0008	0.001	NC	107			108			75 - 125	30
QA/QC Batch 584250 (mg/L), QC Sample No: CI77043 (CI77084, CI77085)													
<u>ICP Metals - Aqueous</u>													
Aluminum	BRL	0.010	0.558	0.523	6.50	95.0	96.2	1.3	102			80 - 120	20
Copper	BRL	0.0025	0.008	0.0082	NC	97.8	99.1	1.3	102			80 - 120	20
Nickel	BRL	0.0005	0.001	0.0011	NC	97.9	100	2.1	89.9			80 - 120	20
Zinc	BRL	0.0020	0.018	0.0182	1.10	96.3	97.8	1.5	88.5			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													



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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 28, 2021

QA/QC Data

SDG I.D.: GCI77084

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 584518 (mg/L), QC Sample No: CI76248 (CI77084, CI77085)													
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	93.0			84.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584322 (mg/L), QC Sample No: CI77008 (CI77084, CI77085)													
Alkalinity-CaCO ₃	BRL	5.00	75	75	NC	93.7						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584327 (umhos/cm), QC Sample No: CI77008 (CI77084, CI77085)													
Conductivity	BRL	5.00	267	269	0.70	98.1						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584318 (pH), QC Sample No: CI77008 (CI77085, CI77086)													
pH			7.86	7.79	0.90	98.2						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584313 (mg/L), QC Sample No: CI77042 (CI77084, CI77085)													
Phosphorus, as P	BRL	0.01	1.08	1.07	0.90	102			98.2			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584369 (mg/L), QC Sample No: CI77081 (CI77084)													
Tot. Diss. Solids	BRL	10	240	240	0	96.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 584373 (mg/L), QC Sample No: CI77081 (CI77084)													
Total Solids	BRL	10	250	260	3.90	98.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 585092 (mg/L), QC Sample No: CI76589 (CI77084, CI77085)													
Ammonia as Nitrogen	BRL	0.05	41.6	47.3	12.8	109			NC			90 - 110	20
QA/QC Batch 584262 (mg/L), QC Sample No: CI77235 (CI77086)													
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	103							

QA/QC Data

SDG I.D.: GCI77084

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference



Phyllis Shiller, Laboratory Director

July 28, 2021

Wednesday, July 28, 2021
Criteria: None
State: MA

Sample Criteria Exceedances Report
GCI77084 - NEB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
--------	-------	-----------------	----------	--------	----	----------	----------------	-------------------

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

July 28, 2021

SDG I.D.: GCI77084

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

SAMPLE RECEIPT CHEMISTRY & CHAIN OF CUSTODY DOCUMENTS

**NEW ENGLAND BIOASSAY
INITIAL CHEMISTRY DATA**

PERMITTEE: Haverhill WWTP
NEB PROJECT # 533396

DATE RECEIVED	7/20/21	
SAMPLE TYPE:	EFFLUENT	RECEIVING WATER
COC #	C41-2968	C41-2969
pH (SU)	6.9	6.6
Temperature (°C)	3.8	5.7
Dissolved Oxygen (mg/L)	8.7	8.7
Conductivity (µmhos)	1,151	172
Salinity (ppt)	< 1	< 1
TRC - DPD (mg/L)	0.091	0.020
TRC - Amperometric	0.04	N/A
Hardness (mg/L as CaCO3)	136	28
Alkalinity (mg/l as CaCO3)	45	15
Tech Initials	CW	CW

NOTE: NA = NOT APPLICABLE

Dechlorination						
Sample ID	Volume	g of Sodium Thiosulfate (0.01 g/L)	Sodium Thiosulfate Lot #	Post Dechlor. TRC(mg/L)	Date	Tech
Effluent						
Receiving						

**NEW ENGLAND BIOASSAY
CHAIN-OF-CUSTODY**

EFFLUENT

Sampler: Joseph Schena
 Title: Lab Tech
 Facility: Haverhill Wastewater Treatment Plant
 Address: 40 South Porter Street
Bradford, MA 01835

RECEIVING WATER

Sampler: Joseph Schena
 Title: Lab Tech
 Facility: Haverhill Wastewater Treatment Plant
 Address: 40 South Porter Street
Bradford, MA 01835

Sample Information

Collection Method: Grab
 X Composite
 Sample ID: Effluent
 Start & End Dates: 7/19/21 - 7/20/21
 Start & End Times: 0945 - 0945
 Type of Sample: X WWTF Effluent
 Industrial Effluent
 Other
 Is the sample: X Prechlorinated
 Dechlorinated
 Chlorine spiked in lab
 Unchlorinated

Collection Method: X Grab
 Composite
 Sample ID: Merrimack River
 Date Collected: 7/20/21
 Time Collected: 1000
 Type of Sample: X Receiving Water
 Other
 Is the sample: X Unchlorinated

7.2 pH
 21.8°C

Due to COVID-19
 safety precautions
 Samples were received
 in NEB refrigerator

Site Description: SE is taken from a sample port after chlorination.

River Grab is taken from Crescent Yacht Club boat dock.

Sample Collection Procedures: SE is taken with an automatic sampler with refrigerated packs (ice packs) to keep cool.

River sample is taken with a bucket into sample bottles & refrigerated in a cooler during transport

Sample Shipment

Method of Shipment: NEB Courier
 Relinquished By: Joseph Schena Date: 7/20/21 Time: 1055
 Received By: [Signature] Date: 7-20-21 Time: 1055
 Relinquished By: [Signature] Date: 7-20-21 Time: 1339
 Received By: [Signature] Date: 7/20/21 Time: 1343

Optional Information

Purchase Order # to reference on invoice:

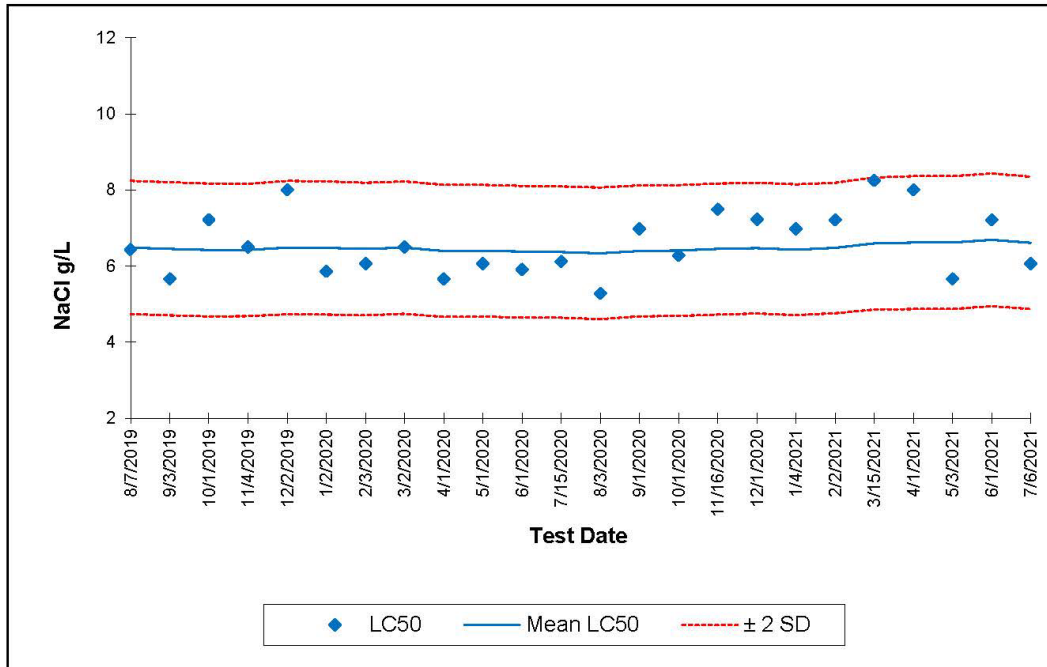
FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 3.8 °C Temperature of Effluent Upon Receipt at Lab: 5.7 °C
 Effluent COC# C41-2968 Receiving Water COC# @41-2969

**IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
 KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042**

REFERENCE TOXICANT CHARTS

New England Bioassay
Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 48-hour LC50



Test ID	Date	LC ₅₀	Mean LC ₅₀	STD	-2 STD	+2 STD	CV	CV National	CV National
								75th%	90th%
19-1088	8/7/2019	6.44	6.49	0.87	4.74	8.24	0.13	0.19	0.33
19-1225	9/3/2019	5.66	6.45	0.87	4.71	8.20	0.14	0.19	0.33
19-1406	10/1/2019	7.21	6.42	0.87	4.68	8.17	0.14	0.19	0.33
19-1567	11/4/2019	6.50	6.42	0.87	4.68	8.16	0.14	0.19	0.33
19-1691	12/2/2019	8.00	6.49	0.88	4.73	8.24	0.14	0.19	0.33
20-9	1/2/2020	5.86	6.48	0.87	4.73	8.23	0.14	0.19	0.33
20-131	2/3/2020	6.06	6.45	0.87	4.70	8.19	0.14	0.19	0.33
20-289	3/2/2020	6.50	6.48	0.87	4.75	8.22	0.13	0.19	0.33
20-426	4/1/2020	5.66	6.40	0.87	4.66	8.13	0.14	0.19	0.33
20-576	5/1/2020	6.06	6.41	0.87	4.67	8.14	0.14	0.19	0.33
20-720	6/1/2020	5.91	6.38	0.86	4.65	8.11	0.14	0.19	0.33
20-982	7/15/2020	6.12	6.37	0.86	4.64	8.09	0.14	0.19	0.33
20-1070	8/3/2020	5.28	6.34	0.86	4.61	8.06	0.14	0.19	0.33
20-1255	9/1/2020	6.98	6.40	0.86	4.67	8.12	0.13	0.19	0.33
20-1424	10/1/2020	6.28	6.41	0.86	4.69	8.13	0.13	0.19	0.33
20-1687	11/16/2020	7.49	6.45	0.86	4.73	8.17	0.13	0.19	0.33
20-1736	12/1/2020	7.23	6.47	0.86	4.75	8.19	0.13	0.19	0.33
21-7	1/4/2021	6.98	6.43	0.86	4.71	8.15	0.13	0.19	0.33
21-138	2/2/2021	7.21	6.48	0.86	4.76	8.19	0.13	0.19	0.33
21-329	3/15/2021	8.25	6.59	0.87	4.86	8.33	0.13	0.19	0.33
21-434	4/1/2021	8.00	6.62	0.87	4.87	8.36	0.13	0.19	0.33
21-591	5/3/2021	5.66	6.62	0.87	4.87	8.36	0.13	0.19	0.33
21-746	6/1/2021	7.21	6.69	0.87	4.95	8.43	0.13	0.19	0.33
21-922	7/6/2021	6.06	6.61	0.87	4.87	8.35	0.13	0.19	0.33

Appendix C

EPA Region 1 Annual Pretreatment Report Summary Sheet February 2022

POTW	City of Haverhill	Name:
NPDES	MA0101621	Permit
Pretreatment Report Period Start	1/1/2021	Date:
Pretreatment Report Period End	12/30/2021	Date:
# of Significant Industrial Users (SIUs):	9	
# of NSIUs With Control Mechanisms:	8	
# of SIUs not Inspected:	0	
# of SIUs not Sampled:	0	
# of SIUs in Significant Noncompliance (SNC) with Pretreatment Standards:	0	
# of SIUs in SNC with Reporting Requirements:	0	
# of SIUs in SNC with Pretreatment Compliance Schedule:	0	
# of SIUs in SNC Published in Newspaper:	0	
# of SIUs with Compliance Schedules:	0	
# of Violation Notices Issued to SIUs:	17	
# of Administrative Orders Issued to SIUs:	0	
# of Civil Suits Filed Against SIUs:	0	
# of Criminal Suits Filed Against SIUs:	0	

of Categorical Industrial Users (CIUs):

of CIUs in SNC:

Penalties

Total Dollar Amount of Penalties Collected

of IUs from which Penalties have been collected:

Local Limits

Date of Most Recent Technical Evaluation of Local Limits:

Date of Most Recent Adoption of Technically Based Local Limits:

Pollutant	Limit (mg/l)	MAHL (lb/day)
Arsenic	0.40	14.1
Cadmium	0.10	2.73
Copper	3.00	98.5
Chromium	6.00	206
Iron	200	1708
Lead	0.60	22.5
Manganese	4.00	33.2
Mercury	0.10	2.90
Nickel	2.50	85.9
Selenium	0.60	21.98
Silver	0.70	24.7
Zinc	1.50	49.1
Cyanide (total)	0.40	12.4